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The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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THE RUBBER OUTLOOK.

"RUBBER, says *Tropical Life*, has been firm, but is still unfairly low compared with its importance as a raw material." We have always been on the side of those who favoured a rise, and the increase of no less than 9d. per lb. experienced during the last few months has, to a great extent, justified our optimism, though we are forced to admit that the rise is less than we had expected. It is for this reason that we consider the above sentence in our London comtemporary pregnant with wisdom, and we remain convinced that some other influence than the natural laws of supply and demand must be sought for. if we wish to find the true reason for the steadiness of the Rubber Market when all other tropical produce has shown such great advances.

It has become the custom to look to the motor trade and to that trade alone for the necessary increase of consumption to cope with the increasing output from the East, and, it is because there are now so many new uses for rubber, and because there has been a large increase in the old directions, other than tyres, that we agree with those who believe that the old cry of over-production will not materialize. There is another reason, with which we will deal later on in this article, in the meanwhile let us see what opinion is at Home. We suppose we must give in to popular ideas in this respect, and, since it is difficult to obtain reliable details concerning the consumption of rubber other than for motor tyres, we must confine ourselves to that trade. It is true the tyre trade is the foremost consumer of raw rubber, and it is equally true that most of the genuine demand comes from America. If proof

RUBBER IN COCHIN CHINA.

The following information about the cultivation of Hevea Rubber in Cochin China is extracted from the *Monthly Bulletin of Agricultural Intelligence, X 2, page 183.*

The development of rubber-growing in Cochin China is one of the most important events in the economic history of the French Colonies; it is the first example of a modern crop cultivated in these colonies on a large scale and, in spite of innumerable difficulties at the outset, its success has exceeded the hopes of even the most optimistic.

The oldest plantations were started in 1897, but large estates have been formed since 1907 only. At present, there are 49,400 acres planted in Cochin China, and about 2,470 in the rest of Indo-China. The acreage is increasing by some 2,500 acres a year, and would increase yet more if more capital were available. In 1917, the yield was about 800 metric tons, and about five million trees will be in tapping in 1922. The average yield per tree is put at $1\frac{3}{4}$ lbs. There is said to be very little disease, and there appears to be a great future for rubber in Cochin China. The Government has proved very liberal in concessions, the soil and climate are very suitable, and labour is plentiful. The yield of 12 year old trees is estimated at about 540 lbs. per acre, and the cost of establishment till the end of the fifth year f. 12 to f. 24 per acre on the best soils.

Some important and interesting advice is given as to spacing by M. Girard in the *Bulletin Economique de l'Indo-Chine.* He states that the action of the sun on yield makes wide spacing indispensable if high yields are to be obtained rapidly, and says that the proportion of high yielding trees, which is 20 to 25 per cent. in plantations spaced $16\frac{1}{2}$ x $16\frac{1}{2}$ in groups of five, rises to 80 or 85 per cent. if the trees are planted in squares 23 x 23 feet apart. The rapid growth on his own estate after the 4th and 5th year, when the trees were allowed sufficient light, led him to limit the number of trees to 40 per acre, and he considers that this number should be still further reduced on old plantations by thinning out.

M. Girard also recommends the growing of coffee between the rubber trees, which in this case are planted 59 x 59 feet, that is, about 11 to 13 per acre. He advises planting coffee in lines, $16\frac{1}{2}$ feet apart the spacing of the bushes in the line being $6\frac{1}{2}$ feet for Robusta and 5 feet for Arabica.

(Signed) RUDOLPH. D. ANSTEAD,

18—12—19. *Deputy Director of Agriculture, Planting Districts.*

THE MOON.

From time to time planters ask me my views upon the effect of the moon on various agricultural operations. This is a superstition which dies hard, and I do not wish to raise an old controversy in your pages. The following extract, however, from a recent issue of the *Agricultural News* (XVIII, 455) may be of interest as showing why scientists in general adopt a sceptical attitude towards this question :—

" Experiments conducted in France begun in 1911 in order to find out if there is any truth in the popular supposition that the moon exercises an influence on the growth of plants. In the latest trials, planting at the time of the new moon gave the greatest yield in twenty-eight cases, planting in the first quarter in twenty-nine, planting at the time of the full moon in twenty-eight, and planting in the last quarter in twenty-seven. This shows that no material difference in yield could be attributed to the influence of the moon."

R. D. ANSTEAD,

Deputy Director of Agriculture, Planting Districts.

THE RUBBER GROWERS' ASSOCIATION.

Mould on Rubber.

This question of Mould on Rubber was brought up at the meeting of the South Indian Branch of the R. G. A., held at Cochin in May, 1919, and, although no actual resolution was passed, it was the feeling of the meeting that there should be no relaxation on the part of managers of estates in taking every precaution in their power to guard against mould.

In September last, Messrs Peirce Leslie and Company, the Secretaries and Agents of the Kinalur Rubber Company wrote the Secretary of the U. P. A. S. I. as follows :—

MOULD ON RUBBER.

" Mr. Anstead writing us on this subject, says :—

' The real solution of the whole matter, to my mind, however, is a ' change in our system of shipping rubber. Block rubber does not get ' mouldy, and the rubber, it seems to me, should be compressed into ' blocks or cylinders, and baled. This was, I believe, insisted upon in ' America, during the war, to save shipping space, and found to work well. ' A reference to this method of packing was made at a meeting of the ' Malaya Planters' Association, held on the 20th June, 1918, and an ' account of what is known as the " Sivraj" method of packing was given ' in the Rubber Growers' Association, London, Report of 9th August, 1918. ' Also there is another aspect. What harm does mould do ? Is mouldy ' rubber a bit the worse for being mouldy, or, is it simply a market dodge to ' lower the price ? At the most, badly spotted rubber has a slightly slower ' rate of cure, amounting in the worst cases to 10%. (See Rubber Growers' ' Association Report of the consulting chemist in London, No. 10, dated Octo- ' ber, 1918). You are aware of course that really there is no such thing as ' " over-smoking." Rubber may be smoked as long as you like, and it makes ' not the slightest bit of difference to its physical properties, and, therefore, as ' to its real value. It is hard to convince the market of this, of course, but, ' if mould has no evil effect, I think the Rubber Growers' Association at ' Home should take up the matter, and start a campaign to try and educate ' the market,' "

The matter was then laid before the Rubber Growers' Association in London, and the following reply has now been received :—

" My Committee are quite in agreement with Mr. Anstead's views. As " regards mouldy rubber, although on physical tests it may be quite as good " as standard quality, there is the fact that, so long as an apparent defect " exists, from the buyer's point of view, such defect will be bound to " influence the price. Under present market conditions, the sale of rubber " is principally on appearance, and therefore the highest value is assigned " to produce which contains no apparent blemish. There is no doubt " that, from a manufacturer's point of view, rubber which is marked a " little below standard quality on account of some slight defect is a " cheaper purchase than standard quality. This is a market condition " which, it is feared, cannot be avoided unless some radical change were " made in the method of valuation, and it is certainly not confined to " rubber. Every article of produce is scrutinized on its appearance, " rather than on its inherent merits.

" Schemes of valuation have been discussed by producers, but they " never materialize, owing to the evidence, from investigation that they were " not commercially possible, the estimated cost of valuation more than

"counter-balancing any probably increase in estimated value even if the "buyers were to agree to any such valuation.

"With regard to the question of Slab or Block rubber, my Committee "have had other correspondence in the matter, and an enquiry is being "made through the Rubber Association of America to ascertain the views "of the manufacturers in the U. S. A. The result of this enquiry will "be communicated to you in due course."'

COFFEE.

In view of the fact that over 80 per cent of the coffee landed in England is eventually exported, it is obvious that the market is mainly influenced by the condition of export trade, and that the summarized reports which endeavour to deal with the whole situation in a sentence are not safe guides for the grocer, as the general trend may be quite in a contrary direction to that of the few particular sorts or grades which interest him.

At the highest point, good Costa Rica and East Indian were selling at 10 shillings to 12 shillings, less for Home trade than for export. Lately, however, owing to a falling off in export demand and an increase in Home trade, enquiry for good quality parcels, prices have moved in the direction of a common quotation, and the difference is only two or three shillings. The value of Home stock has, of course, also been increased by the expense of holding, which is at least one shilling per cwt. per month for rent and interest. The awakened interest of the Home trader was due to the fact that, contrary to the expectations of many, it was found that the people were not deterred by advanced prices from buying coffee, so long as the quality was good.

Nairobi and Uganda are much in demand, as they come under the preferential duty, and prices are well maintained. The supply is short. Santos is considerably easier, but its use has been almost given up by the grocer, Robusta taking its place. Good quality parcels of the latter growth give a very high-roasted return and seem to be very satisfactory for the cheap cannister, if carefully selected. Guatamala, Columbian and other Central Americans have been passed over in favour of British growths, but some of the cheaper parcels are receiving more notice as substitutes for Costa Rica, since that kind is scarce in the cheaper grades.

TONNAGE FOR TEA.

At a meeting of the Tea Distribution Advisory Committee, held on the 18th November, discussion took place relative to the supplies of tea coming forward in the new year, and the Director of Tea Supplies stated that the Ministry had made ample arrangements for the importation of tea up to the end of the present year, but that, in regard to the future, the importations would, to some extent, be regulated by the clearances from London Bonded Warehouses. It was ultimately agreed :—

"That, in the opinion of this Committee, in view of obviously greatly "increased consumption, it is necessary for the Ministry of Food to "arrange with the Ministry of Shipping for a liberal programme of tonnage "commencing January 1920, the trade giving an undertaking to endeavour "to get tea from the London Bonded Warehouses, as early as practi-"cable."

From the above communication, it will be seen that the trade must use its influence to impress upon customers in the provinces who may have tea lying in bond in London, the necessity of clearing such tea as early as practicable.

The Produce Market Review, Nov. 22nd.

NOTES AND NEWS.

Increased Size of Papaw Fruit.

Have any of our readers tried the following experiment, the receipt for which appears in a pamphlet on Fruit Culture in Malaya :—

" An interesting but rather curious method of cultivation for the production of large fruits is sometimes practised. When the plant is three inches in diameter at the base, a hole is bored in the trunk, about six inches from the ground. The hole is made about an inch deep and sufficiently large for a piece of rubber tubing to be inserted. A quart bottle is half filled with sugar, and water added. When the sugar is thoroughly dissolved the bottle is connected to the hole by a piece of rubber tubing. In twenty-four hours the tree will have absorbed the contents of the bottle. A gunny sack is wrapped over the lower fruit and trunk to hasten the ripening of the fruit. It is stated that, if these directions are carried out, fruits averaging ten to twelve inches in diametre will be produced. During the fruiting stage, several of the smaller fruit should be removed, to allow the remainder proper development."

Demobilised Non-Commissioned Officers and Men.

We have received information from the Central Employment and Labour Board, Delhi, that, in future, no releases in India for Non-Commissioned Officers and men normally domiciled in the United Kingdom will be granted by the Adjutant-General without a guarantee of passage Home by the employers, under all circumstances except for wilful misconduct. In the case of small businesses which are unable to give this guarantee, the employee must deposit the passage money, Rs. 350, with the employer. The employer can then give the necessary guarantee.

Imported Motor Tyres.

The total value of the tyres imported into India during the four months, April, May, June, July 1919 was Rs. 35 60,000, of this amount tyres to the value of Rs. 15,59,000 came from the United Kingdom, Rs. 11,45,000. from the United States of America, and Rs. 9,00,000 from Japan.

New Companies.

From the *India Rubber Journal*, we learn that among the recent flotations at Bombay was that of the Malabar Forests and Rubber Company with a registered capital of one hundred lakhs. We do not remember seeing the prospectus of this, and wonder where it is to operate and what its chief objects are.

Exchange—the Rupee Dollar.

On the 1st December it was officially notified in the *Malayan Gazette* that, after the 2nd Money Orders on India and Ceylon would be issued at the rate of Rs. 100, equal $ 100, so that the Indian rupee was of same sterling value as the Straits Dollar, and, since then, the value of

the rupee has materially advanced. A writer in the *Malay Mail* reminds us of the time the Straits Dollar stood at three shillings, and the rupee in the neighbourhood of a shilling.

THE LATE MR. N. D. POLLOCK.

We were shocked to hear of the death at Mundakayam, on Monday, December 22nd last, of N. D. Pollock, who was Honorary Secretary of the Mundakayam Planters' Association. He was Superintendent of Boyce Estate, Mundakayam, and was extremely popular with a large circle of planting and other friends. We shall miss very much his cheery personality and his inimitable renderings of Harry Lauder's songs. We feel sure we are voicing the sentiments of the whole planting community in extending to his bereaved mother and sisters our deepest sympathy in their sad loss.

THE SOUTH INDIAN ASSOCIATION IN LONDON.

We understand that Mr. D. McArthur has joined the Committee of this Association, and his election thereto will meet with universal approval in this country.

MR. R. DE ROOS NORMAN.

We were glad to hear from this old friend and South Indian Planter, who is now in a nursing home in London, that his health is improving, and that he hopes soon to be out of the Doctor's hands. He wishes his many friends and all our readers the compliments of the season.

1920.

The toast this year is to "better times." The nation has come through a very trying ordeal, and has yet the victories of peace to win. To all our readers we wish the utmost goodwill and better times in 1920.

O TEMPORA! O MORES!

A Correspondent, who is not even addressed as "Mr" let alone "Esq" has received the following from a Mount Road firm :—

Dear Sir;

RE. ACCOUNT RS. 579-6-5

A wise man once said "Out of debt, out of Danger."

The enclosed account must be paid 'sooner or later,' and we venture to suggest a remittance per return, will enable you to celebrate a Happier Christmas.

Yours faithfully.

Judging by the signature, we should say this was written by a graduate in studied insult of the latest American University.

THE LABOUR DEPARTMENT.

A Government Order states that, under section 4 of the Madras Planters' Labour Act, 1903, the Governor in Council is pleased to authorise Mr. Joseph Gomes, of Perindotty, and Mr. Worsley Richardson, of Erramaculla, to attest the execution of Labour Contractors.

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PRICE of "A" Coffee.

(BY CABLE.)

LONDON, 2nd JANUARY, 1920.

155*s*/- *per cwt. Market Steady.*

OILS.

Commercial Possibilities of Para Rubber Seed Oil.

B. J. EATON.

Since the publication in the *Agricultural Bulletin, F. M. S.*, Vol VI., No. 5, February, 1918, of the results of the investigations carried out at the Agricultural Department, which has attracted considerable attention outside Malaya, a detailed report has been received from MESSRS. ROSE DOWNS AND THOMPSON, the well-known oil machinery manufacturers of Hull, on a consignment of about 26 tons of undecorticated rubber seed despatched by the Director of Agriculture. The information contained in this report, together with observations made by the Director of the Imperial Institute, are embodied in the present article.

The seeds composing this consignment were collected from several estates in Selangor, the cost of collection varying on the different estates. The consignment consisted of three different lots of 87, 162 and 204 bags, respectively, or a total of 453 bags which weighed, on receipt in Hull, 25½ tons.

The following are the details of the cost of the seed and total value of the oil and meal as supplied by MESSRS. ROSE, DOWN AND THOMPSON:—

	Tons.	cwt.	qrs.	lb.	per cent.
Weight of seed treated ...	25	15	1	7	
Do. oil from whole seed by extraction ...	4	19	1	26	— 19·30
Do. foots ...	0	15	1	2	— 2·93
Do. meal ...	19	4	2	0	— 76·60
Loss in working ...	0	6	0	7	— 1·17

ACCOUNT SALES.

	£.	s.	d.
(Oil 5 tons. approx.)	286	17	6
Meal (19¾ „)	157	16	0
Total...	444	13	6

Oil ... £50 per ton. Meal ... £8 per ton

COSTS.

Less disbursement and expenses.	£.	s.	d.
London charges, customs, entry port dues, landing and wharfage charges ...	19	18	4
Carriage, London to Hull, and local transport, Hull	26	13	11
Analyst's fees	5	5	0
Total...	51	17	3
Net proceeds	392	16	3

From the above sum, cost of the seed, freight charges on rail in the Federated Malay States and from Port Swettenham to London, and cost of extraction of the oil have to be deducted.

No information was supplied as to the cost of extraction of the oil, but the remaining figures of cost are as follows:—

Cost of collection of seed ... $ 450 = £ 50, approx.

Freight charges and handling, Kuala Lumpur *via* Port Swettenham to London ... ... $ 3415 = £ 400 „

From the above figures it will be seen that the cost of freight on the seed was not covered by the amounts realized by the sale of the oil and meal, after deducting costs in England.

The freight charges, etc., on the three consignments, which were shipped on separate dates, varied from $ 6·83 to $ 9·37 per bag.

It is scarcely necessary to add that the freight charges are very high, owing to the abnormal conditions in 1916 and 1917, and that it would not be desirable, from an economic standpoint, even in normal times to ship seeds, husked or unhusked, from this country.

Method of extraction.—The whole seed was extracted by MESSRS. WRAY, SANDERSON & Co., LTD., Seed-Crushers of Hull, in chemical extraction plant. It was unfortunate that the seeds could not be decorticated first, and also that they had to be extracted, on account of conditions, by chemical solvent extraction instead of by hydraulic mills.

The treatment of undecorticated seed involves the handling of nearly double the weight of material, since the seeds consist of about 40 per cent. of shell containing no soil; secondly, meal or cake from undecorticated seed, containing a large proportion of the hard shell, would be of very low value for feeding purposes for cattle or sheep; thirdly, extraction by chemical

solvents, although it removes practically all the oil, probably renders the residual meal unfit for cattle feeding, on account of both its flavour and low percentage of oil. The method of extraction, however, shows the maximum oil-content of the whole seed obtainable under average commercial conditions, which compares favourably with analyses made in the laboratory.

It should be mentioned also that the price obtained for the oil, viz., £50 per ton (approx.) is an enhanced price, due to present conditions, and compares with £60 per ton, which was the price of linseed oil at the time.

Under pre-war conditions, linseed oil fetched about £30 per ton and Para rubber seed oil would probably fetch £20 to £25 per ton.

Report on the Oil.

Apart from the criterion of the value of the oil, as indicated by the price realized, a sample was submitted also to a firm of paint manufacturers, who reported that the oil might be used to some extent as a substitute for linseed oil, but that it was more probable that it would only be used to mix with other oils, i.e., in the nature of an adulterant. The oil, as was known previously, is not equal in quality to linseed oil, as a paint oil or for varnishes. This firm valued the oil for its own purpose at £20 per ton in normal times, compared with £30 per ton for linseed oil. It may, on the other hand, prove more useful than linseed oil, which is said often to dry too quickly in hot climates, but this remains to be proved by actual experience.

The oil would probably not have any special value for other purposes, since for soap-making, etc. other fats and oils are available.

Result of analyses.- The analytical results obtained on the sample were as follows.—(The figures for linseed oil and for previous samples of rubber seed oil are given for comparison).

	Rubber seed oil. (Present sample)	Rubber seed oil. (Previous sample)	Linseed oil
Specific gravity at 15·5C° ...	0·9245	0·925	0·932—0·937
Jean's refractive index at 22° C	+ 24	...	...
Zeiss ,, ,, 40° C	+ 62	...	72·74
,, ,, ,, 25° C	+ 75	...	...
Wij's iodine value	139·3	128·5—143·3	175 –200
Saponification value	192·5	188·5—192·1	186—194
Free fatty acids (as oleic acid) (per cent.)	16·9	5·3—20·5	0·0—5·0
Drying test	Poor	...	Good

The high acid value of the oil from the present consignment of seed is probably due to deterioration during transport.

The oil was also dark in colour, due probably to colouring matter extracted by the solvent from the shell. The remarks on the unsatisfactory character of the oil from this consignment of seed for paints and varnishes are no doubt due largely to its high content of free fatty acids, since, when mixed with white lead, it would produce a pasty paint, which would not spread well.

Rubber Seed Meal or Cake.

The residue from the extraction by solvents may be described as a meal rather than an oil-cake, and was stated to have been sold for the purpose of mixing as an ingredient of a compound feeding cake.

The analysis of the meal gave the following results :

	Per cent.
Moisture	8·24
Oil	4·48
Proteins	17·50 (containing 2·8 per cent nitrogen.)
Carbohydrates	32·29
Woody fibre	34·86
Mineral ash	2·63 (silica 0·25 per cent)
Food unit value	87·24

The large percentage of woody fibre is accounted for by the husk or shell, and detract sconsiderably from the value of the product as a feeding material. It was not, however, possible to carry out any feeding experiments under the conditions prevailing.

The following is an analysis of meal from the kernel only, with the oi reduced to about the same figure :—

	Per cent.
Moisture	12·50
Oil	4·00
Proteins	33·25
Carbohydrates	39·75
Woody fibre	4·20
Mineral ash	6·30
Food unit value	132·87

The low woody fibre content of the above meal, compared with that of meal from the undecorticated seed, may be noted.

The following calculated analyses for oil-cakes from undecorticated and decorticated seeds, obtained by expressing the seed in hydraulic presses, are of interest. The oil content of the cake from the decorticated seed is assumed to be 13 per cent., but a smaller quantity of oil would remain in the cakes by twice pressing. For comparison, previous actual analyses are given, together with an analysis of linseed cake :—

—	(1) Cake from undecorticated seed	(2) Cake from decorticated seed	Previous analysis.	Linseed cake.
	Per cent.	Per cent.	Per cent.	Per cent.
Moisture ...	42·00	11·00	8·75	11·6
Oil ...	8·00	13·00	8·71	9·50
Proteins ...	18·37	33·25	30·19	29·5
Carbohydrats ...	24·93	32·25	41·71	35·54
Woody fibre ...	32·00	4·20	5·01	9·10
Mineral ash ...	4·70	6·30	5·60	5·20
Food unit value ...	90·85	147·87	139·00	133·00

Value of Extracted Meal as a Fertilizer.

Messrs. Rose, Downs & Thompson have also had the meal examined from the point of view of its use an artificial fertilizer.

The figures obtained are as follows:—

	per cent.
Nitrogen ...	2·80 (= Ammonia 3·00 per cent).
Phosphate of potash ...	1·00

At the Government rates ruling at the time—*viz*, 17/0 per unit, the product was worth £2.12*s*. 6*d*. per ton, which is very low and much less than its valuation as a feeding material.

General Conclusions.

Messrs. Rose, Downs and Thompson point out that, by chemical solvent extraction, there would be no difficulty in reducing the oil-content of the residual meal, if desirable, 1·5—2 per cent.

If the seed were expressed in hydraulic mills, they state that there would be no advantage in cold pressing first in order to obtain a paler oil, followed by hot pressing to get the maximum amount of oil. Two pressings of heated seed, if necessary and economical, would be preferable.

In the consignment sent, the whole seed contained about 45 per cent. of shell to 55 per cent. of kernel. If the shell were removed before expression it could be used as fuel, or possibly as a manure, although its value is not great for this purpose.

Messrs. Rose, Downs and Thompson also point out, with regard to the problem of machinery for expression of oil, that it would not be economical to run a plant for, say, about three months in each year, and also that it is desirable to run such plant day and night, and not during the day only, stopping, say, at week-ends only. The writer has continually emphasized this point in discussing the running of oil machinery in this country.

Further, it is not desirable to use such plants for more than one kind of oil seed, as better results can be obtained by working continually on one type of seed. This means that the problem of storing seed should be considered, with the object of keeping the plant running throughout as long a period during each year as possible.

Decortication of the seed, prior to expression, is recommended, as has been recommended by the writer in this country, primarily on account of the fact that the shells contain no oil, and, since they constitute over 40 per cent of the seed, nearly double the quantity of decorticated seed can be treated in any given period. Further, the residual cake is of more value as a feeding material.

Machinery

The following details with regard to machinery required are of interest.

Hydraulic plant:—Capacity 1·34 tons of undecorticated seed per hour or 1 ton of decorticated seed per hour, equivalent to 7,200 tons of decorticated seed per year of 300 days of 24 hours per day. Plant supplied to decorticate the seed and press twice, working continuously.

The plant includes:—

(1) Two decorticators;
(2) One set of crushing rolls, 4 feet long by 16 ins. diameter;
(3) The hydraulic "Premier" (i.e. cage) presses each with kettle;
(4) One cake breaker;
(5) One set Anglo-American rolls for re-grinding cake breaker;
(6) One Kettle for Anglo-American presses;
(7) One cake moulding machine;
(8) Four Anglo-American (i.e. open)
(9) One set edge-stones;
(10) Cake-paring machine.

Necessary pumps, elevators, conveyers, tanks, accumulators. pipes and fittings, press mats and cloths and driving gear, exclusive of belts. Engine and boiler not included.

Pre-war price (excluding freight-by sea) ...	£5,780 0 0
Estimated present cost ...	£11,505 0 0

Chemical extraction plant.—Capacity 2½ tons of undecorticated seed, or 1¼ tons of decorticated seed per hour of 9,000 tons of decorticated seed per year of 300 days of 24 hours per day.

(1) Decorticating Machinery
(2) Reducing and grinding plant
(3) Extraction plant—standard unit of four extractors
(4) Meal-drying, cooling and bagging plant.

All necessary conveyers, elevators, connecting pipes and fittings and driving gear, except belts. Excluding boiler and engine

Pre-war price	£ 5,900
Estimated present cost... ...	11,800

QUANTITY OF SEED AND OIL FROM ESTATES IN MALAYA.

The area under rubber cultivation in Malaya is, approximately, 1½ million acres, of which 1 million may be taken as European-owned or managed estates.

The yield of seed may be taken at about 400 per tree, and, assuming 90 trees per acre, the yield per acre would amount to 306 lb. (1,000 seed = 8·5 lbs.)

This gives a total yield of 130,000 tons of seed per annum, which, on a 20 per cent oil basis, represents 26,000 tons of oil.

From an econonic point of view it would be preferable to express or extract decortcake seed. The quantily of decorticated seed, on the basis of 55 per cent. kernel, would amount to 71,500 tons, which could be taken as yielding by expression 36 per cent. of oil or, as above, 26.000 tons, approximately.—*Agric. Bulletin of the F. M. S.—Vol. VII. No. 2.*

THE SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Mr. Anstead's Tour.

(*Continued*).

DRAINAGE.

From Mundakayam the party paid a short visit to Peermade, where the Tea Experimental Station was inspected, and a few Estates in the neighbourhood visited.

One of the most important problems with Tea awaiting solution in this District is the control of Mosquito Blight (*Helopeltis*). A great deal of work has been done on this subject and a great deal written about it, but methods of control at present discovered are not very satisfactory. The latest pronouncement on the subject is a Circular issued by the Indian Tea Association. This was published in the *Planters' Chronicle* Vol. XIV P. 634.

From this it would appear that one of the important factors is the health of the tea bush, and in maintaining its vitality to resist the attacks of all diseases, is drainage, an opinion long held and preached by Mr. Anstead. It is too often taken for granted that hilly land needs no artificial draining, but this is not always the case. Even when drains are made, what may be described as the technique of the subject is often

neglected or misunderstood. Instances can be found of drains at too big a slope, side drains entering a main one at right angles, even in some cases two entering a main at opposite points. The result in all cases is severe scouring and loss of valuable land, owing to the rapid formation of big gullies which wash out in the monsoon and get larger and larger. Main drains, which must come down hill at a steep gradient, should be paved and stepped with level terraces whenever possible, so as to break the force of the water, occasional pits to catch silt are also advisable. It should be fairly obvious that side drains should enter main at an easy angle, and that two should never be allowed to enter a main at the same point. The "Scientific Johnnies ", or even a less polite term often applied to members of the Agricultural Department, are often accused of being "impractical " as compared with the planter of even a few months experience, yet on this tour, especially in South Travancore, numerous cases of the defects quoted above were noticed, and the argument about impracticability was not convincing in consequence.

The beneficial effect of drainage on disease is well shown in the case of " Red Ruts ", and it has been found recently that " Brown Blight" can to a large extent be controlled by a good drainage system.

There has recently been published a handy little book, which may be commended to planters, entitled" *Drainage for Plantations—A Practical Handbook*," written by that well-know author Claud Bald and published by Thacker Spink & Co., Calcutta. It is written round the text that " drainage is now looked upon as the foundation upon which all other agricultural improvements must be based", and we cannot do better perhaps than quote from it at some length.

"The action of air in the soil is of the greatest importance. It is ever ready to enter the soil when opportunity offers. The atmosphere exerts a pressure everywhere equal to 15 lbs. upon every square inch. People are not conscious of this pressure upon their bodies, because it is equally distributed, and the pressure within the body balances that upon the surface. The point in this connection is that, as soon as water is removed from wet soil by drainage, the air of the atmosphere with a strong pressure behind it, rushes in to occupy the vacated space. So long as any soil remains sodden this action cannot take place, and the health-giving, renovating atmosphere is excluded ".

" Modern science has discovered the principal reason why fresh air is so necessary to promote healthy action in the soil. This is the presence and wonderful activities of soil bacteria. At one time the changes which occur in all soils were attributed entirely to chemical action. It is now known, however, that the chief agency is a tiny organism in the form of bacteria so minute that only experts in microscopic work can identify and study their activities. The study is yet in its infancy, but certain important facts have already emerged. The first and most numerous, class of soil bacteria are termed "aerobic", because this class lives and thrives in healthy surface soil where there is a plentiful supply of fresh air. The special functions of this class are to decompose all kinds of organic matter add to separate the *nitrogen* therein, transposing it into *nitrates* so as to be easily assimilated as food for plant growth of all kinds. They are for this reason also termed " nitrifying bacteria". It is essential to their existence that they should have abundance of oxygen from the atmosphere. The fertility and productiveness of any soil depends absolutely upon the activities of these minute organisms. A soil may be chemically full of all the ingredients necessary as plant food, but, if these have not been elaborated by the bacteria, the plants growing in the soil must languish and lead a

sorry existence, and they will be especially liable to attack by diseases and pests. The thing of importance from a drainage point of view is that, if any soil be soaked with water for a length of time, the bacteria become drowned out, and their beneficent activities are at an end. When aerobic conditions begin to be suppressed another class of bacteria are found to exist. These are described as " *anaerobic* " because they can live in the absence of air. They work in an opposite way to the first, and they tend to release any nitrogen which may be present so that the plant roots are deprived of it."

It will be seen from the above that it is useless to apply manures like poonac, fish etc. if the soil is not sufficiently aerated to allow the aerobic or nitrifying bacteria to thrive and break them down to nitrates and food which the plant can absorb. Hence it follows that the manures are more effective in a well drained soil.

" It is a mi t ke to suppose that drainage carries away all the water out of the soil. It only carries off surplus water. The water which is held by capillary attraction and water film is retained, no matter how much the land is drained. Capillarity from the levels below the drains continues unabated and is indeed more active, owing to the improved texture of the whole soil resulting from constant and effective drainage. If the land is not in a well drained condition the rain cannot enter the soil further than an inch or two, and consequently most of the rain must flow off the surface, carrying with it nearly all the feeding properties and also a great deal of surface soil and organic matter—which has been weathered and prepared for plant food, all being lost and carried away in streams and rivers."

This is what often happens on steep land on Tea Estates which are supposed to be " naturally drained." A system of drains on the land would improve the fertility and reduce diseases, because the bushes would be more vigorous and able to resist the attacks,

" Whenever the soil is in a good state of drainage most of the rain passes through the surface soil, leaving behind it the valuable fertility which it carried. This water also carries down with it the air which had been occupying the vacant space between the soil particles and the weathered and prepared soluble substances of the surface soil for the plant roots. As the new water sinks into the soil it pushes the stale moisture into the drains, and freshens everything. All this usefulness is lost upon water-lodged soil, where the movement of water, so far as there is any movement at all, is upward instead of downwards.

" When the rainfall is very heavy it is impossible to make all the water pass through the soil on which it falls, but this does not matter. What is of importance is that the first rain after dry weather should pass through. During a spell of dry weather, minute particles in the surface soil become soluble through a process of weathering and a certain amount of plant food has been prepared by bacterial agency, and the first rain should carry this plant food down into the soil within range of the roots. The subsequent water may run off. That is inevitable and, to prevent it eroding the soil, catch pits and cover crops may be employed, so that it runs off clear and not muddy.

The moral of all this in that many estates would be the better for a more efficient system of drains than they now possess, and that, when pests and diseases become troublesome, one of the first things to look at is the drainage system. An increase of the drains or a deepening of the existing ones will in many cases increase the fertility of the soil, raise the vigour of the plants and reduce the incidence of disease.

Conclusion of the Tour.

From Peermade the party proceeded to Quilon, where a meeting of the South Travancore Planters Association was attended, and from there they proceeded to Thenmallai, to inspect the site of the second Rubber Experimental Station and see the preparations which are being made for starting work on it.

At this point a most instructive and enjoyable tour came to an end.

Mr. Wood and Dr. Norris proceeded to the East Coast and Mr. Anstead returned to Coimbatore. The hearty thanks of the party are tendered to their many hosts and hostesses, who offered them such unbounded hospitality during their peregrinations, and to the many planters who gave up their time so ungrudgingly to accompany them round the estates visited and showed them the work which was going on. The tour will always remain a pleasant memory, at least to the visitors, and it is hoped that it was not altogether unpleasant to the visited. That it has given a Director of Agriculture a little insight into the conditions, difficulties, and needs of planting districts is all to the good, and it is hoped that such tours may bear fruit when these needs are put forward officially.

R. D. A.

TEA IN 1918-1919.

Brooke Bond & Co.'s Report.

During the war it was very difficult, latterly impossible, to obtain reliable figures with regard to the production and consumption of tea, as the Board of Trade ceased to publish regular periodical reports. Matters are improving now, but we are still unable to compile as full statistics as we were accustomed to give before the war. Some steps have been taken during the year under consideration towards restoring the tea trade, as well as other branches of commerce, to pre-war conditions. On March 24th control ceased. The embargo on the import of non-British-grown tea has also been removed, so that there is now no law to prevent people buying as much tea as there is to be had, and those who felt themselves aggrieved, because they could not have China tea, can now purchase the blend they prefer. The import of foreign grown tea is however hampered by a preferential duty of 2d. a pound, the duty on British-grown having been reduced on June 2nd to 10d., the tax on other remaining 1s. This represents a very doubtful commencement of Imperial preference, as tea badly wanted has not been attracted here and Java tea has gone—instead of Indian and Ceylon sorts—to America, one of our best customers. There is still great difficulty in obtaining enough tea to satisfy British demand. This is partly due to freight difficulties and greatly to the congestion at the docks. There are millions of pounds of tea still lying at Calcutta, Chittagong and Colombo, waiting to be shipped, much of which has been there for months. Arrangements have now been made to ship much larger quantities than hitherto. If the docks and warehouses are organized to cope with these increased arrivals, there should be an abundance for all requirements.

The cost of freight, compared with pre-war rates, is enormous. Five years ago tea was brought from Calcutta to London for 27/6 per ton of 50 cubic feet. The present charge is 131/3. From Colombo it is 100/. What are known as the Conference Lines have recently made an agreement with the Indian growers to take their tea for 15/- a ton over the charge for rough cargo. This seems to be a fairer arrangement than fixing a rate for tea, when, everything is in such a state of flux as it is at present. In spite of

freight difficulties, there is a large quantity of tea in the country at present, yet it is almost impossible for wholesalers to get enough to satisfy their customers, because of the congestion at the docks. Apparently, men working eight hours a day and no overtime cannot unload the ships as fast as they come in. Complaints are also made that there are not enough barges, and that some of the methods of dealing with tbe tea are obsolete and take an unnecessarily long time.

As we stated above, we cannot get reliable figures with regard to production throughout the world, but, according to the most trustworthy reports obtainable, the quantity exported from India in 1917-18 was the highest on record, shewing an increase of 23 per cent. over that of the previous year and of 35 per cent. over the pre-war average. During the year under consideration, exports of Indian tea were on the whole smaller than during the previous twelve months.

The following table gives the distribution of the Indian crop during the last two seasons, and also during the pre-war season 1913-14.

	Season 1918-19. lbs.	Season. 1917-18. lbs.	Season. 1913-14. lbs.
United Kingdom ...	269,879,571	252,102,251	196,352,620
Australia ...	7,137,057	8,176,205	9,903,212
Canada ...	1,188,639	20,048,283	6,047,896
United States ...	1,880,900	17,414,083	1,998,655
Russia ...	14,855	8,631,025	33,695,702
South-America ...	6,008,636	2,087,564	...
Continent of Europe ...	1,791,112	1,021,010	1,170,051
Bombay ...	20,393,836	18,341,711	5,763,161
Burma ...	1,456,313	1,317,954	1,312,727
Persian Gulf ...	2,675,111	...	1,633,820
Africa ...	2,457,476	10,361,740	2,330,852
China ...	632,327	2,319,279	11,414,968
Straits Settlements ...	327,479	328,557	419,197
Other Places ...	527,341	169,534	599,240
Total ...	316,370,656	342,318,193	272,642,091

The quality of the 1918-19 crop was on the whole disappointing, though there were some good autumnal teas from Assam and Darjeeling, those from the latter district being decidedly above the average of recent years. As long as all tea had to be sold at a flat rate of 2/8 a pound, there was little incentive to turn out fine tea, so that many planters directed their efforts chiefly to producing quantity rather than quality. Since control ceased, there has been a great demand among consumers for good tea, and planters are again aiming at quality as well as quantity.

Exports from Ceylon have fallen steadily during the last four years, not because planters could not produce as much tea as before, but because of the difficulty of obtaining freight and because of the restrictions imposed during the war. We now look forward to more regular shipment, as freight is to be supplied.

The following are the exports from Ceylon for the last four years :—

	Lbs.
1915	211,629,777
1916	202,482,959
1917	193,033,962
1918	180,638,872

The following table gives the export distribution from January 1st to September 1st for the two years 1918 and 1919.

		1919.	Black & Green. lbs.
United Kingdom—			
	Black ...	85,557,413	...
	Green ...	3,080	85,560,493
Russia	Black ...	760,862	...
	Green ...	...	760,862
Other countries in Europe—			
	Black ...	4,238,046	...
	Green ...	10,800	2,248,846
America	Black ...	12,623,480	...
	Green ...	315,028	17.938,508
Australia	Black ...	10,187,921	...
	Green ...	...	10,187,921
China	Black	497,942	497,942
All other ports—			
	Black ...	8,208,168	...
	Green ...	1,284,012	9,492,180
Total	Black ...	122,073,832	...
	Green ...	1,612,120	123,686,752

		1918. lbs.	Black & Green. lbs.
United Kingdom—			
	Black ...	57,473,407	...
	Green ...	...	57,473,407
Russia	Black ...	24,948	...
	Green ...	109,765	134.713
Other countries in Europe—			
	Black ...	5,138,760	
	Green ...	64,548	5,203,298
America	Black ...	9,465,525	
	Green ...	245,917	9,711,442
Australia	Black ...	23,270,162	
	Green ...	7,796	23,277,958
China	Black ...	969,176	969,176
All other ports—			
	Black ...	13,762,423	
	Green ...	650.655	14,413,078
	Total Black ...	110,104,291	
	Green ...	1,078,681	111,182,972

The complete totals of 123, 686, 752, lbs. for the eight months of 1919, against 111, 182, 972 in the corresponding period of 1918, shew a decided increase in the present season, the monthly average being 15, 460 844 lbs. against 13, 897, 871 in 1918.

There was nothing very remarkable in the quality of the Ceylon crop during the year; if anything, the average was above the usual, owing, no doubt, to fine plucking in view of the shortage of freight. It will be noted from the table that exports to the United Kingdom and America are recovering, and that more has been sent to Russia, but much less to Australia and "other ports." Among the latter, the chief fall is to Africa and Mauritius.

The China export trade suffered greatly during the war, particularly during the last year, as will be seen from the following table giving exports for the last four seasons :—

	lbs. 1918-19	lbs. 1917-18.
United Kingdom ...	5,297,190	973,996
Russia ...	3,415,714	29,369,788
United States and Canada ...	10,260,738	23,242.924
European Ports ...	6,328,921	2,421,853
Batoum ...	0,485	65.598
Bombay ...	3,428,260	3,989,589
North Africa ...	739,961	1,484,126
Total...	29,479,349	61,550,456

	lbs. 1916-17.	lbs. 1915-16.
United Kingdom ...	12,096,051	13,985.266
Russia ...	33,068,758	49,888.200
United States and Canada ...	17,299,187	18,714.301
European Ports ...	2,814,570	6.277.491
Batoum ...	2.968,393	4,796,517
Bombay ...	1,535,726	2,083,762
North Africa ...	1,519,189	2,818,267
Total...	71,211,865	98,060,006

It will be noticed that the chief falls are in the amounts sent to America and Russia. Exports to the United Kingdom have somewhat recovered, owing to the removal of the embargo on the import of foreign tea into Great Britain and to the rather easier freight rates. It is always impossible to give exact figures for the amount of tea grown in China, but it is stated on good authority that the crop of black was about 40 per cent. smaller than in the previous season. Of the tea intended for export, a good deal remained unsold at the end of the season. The French Goverment took an unusually large quantity, principally green. The quality of the crop, both black and green, was on the whole below the average.

Exports from Java were smaller in 1918 than in the previous year, especially to Great Britain, Holland and Russia, in the former two instances entirely owing to lack of freight. They increased considerably to the United States. Dutch planters unloaded their accumulation of stocks on to this market, practically regardless of cost. During the present year conditions have become more normal. During the eight months ending August 31st, nearly fifteen and a half million pounds have come to London, against not quite seventeen and a half million in the corresponding period of 1913, the last year before the war. There is to be an International Tea Congress and Exhibition in Batavia in 1921, with the object of studying all questions connected with the tea industry and of showing how tea is cultivated and manufactured in various countries.

Exports from Sumatra are increasing. During the eleven months ending November 30th, 1918, they were more than three times those of the corresponding period of 1917. This country will gain in importance as a tea producer, as planting there is very successful.

Tea is grown in several other places, as well as in the great producing countries already discussed. A few particulars with regard to

these other areas may be interesting, although the amount grown in them is inconsiderable.

Exports from Nyasaland rose from 280,000 lbs. in 1915-16 to 420,0000 lbs. in 1916-17, the last year for which we have complete figures. The area under tea also increased from 4,141 to 4,228 acres. The cost of production is low, and the tea finds a ready market in London. The industry is steadily increasing in prosperity.

Production in Natal, which at first promised well, does not flourish, chiefly owing to the high price of labour. The yield for the last twelve months for which we have figures, 1916-17, was 1,747,056 lbs. The annual consumption in the Union of South Africa is about 7,000,000 lbs., so there is a good market close at hand, if sufficient tea can be produced. The area under tea is about,3,900 acres, and it is estimated that at least 15,000 acres of suitable land are available

Tea is grown in other parts of Africa, and is reported to be doing particularly well in British East Africa.

In Mauritius, production has not expanded much lately, though demand has increased considerably. There is a good deal of land suitable for tea planting at present uncultivated.

The Persians shew an increasing desire for tea Not only do they import, but they have taken to growing tea. If well managed, the industry should flourish. There are acres of virgin forest (the wood from which could be advantageously sold in the neighbouring Caspian ports) where tea could be cultivated if the ground were cleared. There is a good rainfall, and labour is easily obtainable. Planters have not only a good home market, but are close to Russia, where there is a great demand for tea, also, through Batoum, they can send their produce to all other parts of the world.

Tea is also grown in the Fiji Isles, Jamaica, the Andaman Isles and Indo-China.

Turning to the question of consumption, we find that it is increasing throughout the world at a greater rate than production.

In the United Kingdom it is difficult for wholesalers to satisfy demand. Apparently, now that Control has ceased, people are determined to make up for having been rationed by buying freely. The purchasing power of the nation has doubtless increased, as, although the price of tea is higher than before the war, the amount consumed is much greater.

The following table gives the imports, according to Board of Trade returns, for the eight months of the current year ending August 31st, compared with the corresponding period of 1914, the last pre war return:—

	1919. lbs.	1914. lbs.
Imports of all teas ...	289,800,000	196,200,000
For Home Consumption ...	255,990,000	215,600,000
Exports	18,700,000	35,500,000
Total Bonded Stock August, 31st ...	146,400,000	81,000,000

It is quite impossible to say what is the consumption per head at the present moment, but there is no doubt that it has increased considerably since Control was withdrawn.

Increase in consumption is confined to the United Kingdom or to the English speaking countries. We find the same almost everywhere, in spite of enhanced prices. In France and Italy, which have never been tea-drinking countries to any extent, there is a marked increase in the amount taken. Germany has also developed a taste for tea, but we have no reliable figures as to consumption in that country. Prices are still high in most European countries.

CANADA is taking more tea than formerly. The Dominion believes in Imperial Preference. The import duty is 3 cents less on British grown tea, sent direct from the country of production or purchased in bond in great Britain than on non-British tea.

Whether owing to prohibition or to the efforts of the Indian Tea Cess Committee or, as is very probable, to both, consumption in the United States shews a considerable increase. A writer on the subject says that afternoon tea is becoming a social institution. In 1918, the imports were 151, 000, 000 lbs. as against 103,000,000 lbs. in the preceding twelve months and 115,000,000 lbs. in 1909, the years which had hitherto held the record. As has been frequentily remarked for many years, the States imported almost entirely from China and Japan. Of late years, however, much has been taken from the British and Dutch East Indies. In 1916, out of 110,000,000 lbs. imported, 14,000,000, lbs. came from India and Ceylon; in 1918 out of 151,000,000 lbs. imported 45,000,000 lbs. was British-grown. When Great Britain placed an embargo on the import of foreign grown tea, the Dutch growers had to find another market for their produce. They already had a footing in the United States, and were able to increase their exports to that country from a little over 5,000,000 lbs in eight months of 1917 to 25000,000 lbs. in the corresponding period of 1918. The Dutch are doubtless reaping the fruit of the efforts of the Indian Tea Cess Comittee to popularise tea in the States, and will continue to do so.

Consumption in India continues to expand. If it were possible to obtain reliable figures, it would probably be shown that a very considerable increase has taken place. A statement was made in the House of Commons last April to the effect that consumption in India had doubled in the last five years, and that it was seven or eight times more than in 1905. Many native buyers now operate in the Calcutta Auction Room, proving that they are becoming interested in the trade themselves. The increase is chiefly due to the efforts of the Indian Tea Cess Committee, whose agents have done excellent work in the villages, in the Army, in factories and in the towns. One of their most successful methods is establishing, or assisting natives to establish, tea-shops, where cups of hot tea can be bought at a very low price. The chief obstacle to getting the natives to drink tea is the difficulty of supplying it, really good, at a price within the purchasing power of the majority.

RUSSIA, one of the chief tea-drinking countries of the world, and formerly India's best customer after the United Kingdom, is now almost out of the market.

In MOROCCO, there is a diminution in the amount of tea taken, chiefly owing to freight shortage and also probably to shortage of sugar, without which there is no demand for tea.

It is evident that consumption is increasing in almost every part of the world. Both planters and distributors ought to do well during the next year, if they are allowed to develop their industry unhampered by restrictions and if they are able to get their produce conveyed at reasonable rates to the markets eagerly waiting for it.

SUGARCANE CULTIVATION.

The high retail prices of sugar prevailing in the market, due to the constantly increasing consumption all over the world and the complete cessation of the imports of Beetroot sugar from Germany and Austria—has tended to draw the attention of all those engaged in the Sugarcane Industry to take advantage of this shortage of sugar, and to devise some means by which this can be overcome and enable India once more to supply her own need, as well as to be able to be an exporter of this commodity, as she once was.

The writer is of opinion that, although it is suggested that large areas should be taken up for the cultivation of the sugarcane, very little has been said as regards improving the methods of cultivating and manuring.

The writer, having visited many coffee estates in South India, is of opinion that, as coffee is very uncertain in its yielding capacity due to weather conditions, Planters might, with advantage to themselves, reap a fair profit and supplement any small loss incurred by the partial failure of their coffee crops, by utilizing all suitable and available patches of lands on their estates for the cultivation of this most important product.

A few practical hints regarding its cultivation, methods of manuring and the right sort of manures to apply may not be out of place at this juncture.

To prepare the ground for the cultivation of the sugarcane, it would be advisable to burn all grass and any other vegetation growing on it, as the first step.

The next step will be, to have furrows prepared for planting the sugarcane setts—the furrows should be about 9 inches wide and about 3 inches deep, in parallel lines 2 feet apart.

The planting furrows should be allowed to weather for a few days, after which the setts should be carefully placed in the furrows end to end in a continuous row; any other method of planting can be adopted, if preferred, but the setts should always be carefully selected from the large healthy cane sticks 3 to 4 internodes from the top—only those not infected by borers being used. The setts should then be covered with a thin layer of soil not exceeding 3 inches over the setts.

A shallow irrigating trench should be opened with a hoe or any suitable implement for the purpose, about one foot from the planted furrow. The irrigating trench should not be allowed to fill up, but should always be kept open with a hoe or any suitable implement. The manures should be applied when the plants break ground.

The following is the mixture, and the quantities to be applied for one acre :—Care should be taken that the Nitrate of Soda should be well powdered, and not mixed with the other ingredient until immediately before applying.

One acre.

2½ cwts. Nitrate of Soda. | 2½ cwts. Concentrated Superphosphate.

When the manures are applied, care should be taken to sprinkle it as near the plants as possible, but on the other side of the row of plants to where the irrigation furrow is. The manure should then be covered with a thin layer of damp earth. The Nitrogen will reach the young rootlets with the water, which percolates and dissolves the Nitrate of Soda.

The first application should consist of

76 lbs. Nitrate of Soda. | 150 lbs. Con. Superphosphate,

4 weeks later, another application of 74 lbs. Nitrate of Soda and 102 lbs. Con. Superphosphate should be given.

A few weeks later before the rains, a third dressing of 74 lbs. of Nitrate of Soda, only, should be applied.

The writer has carried out several experiments on sugarcane in South India with marked success, the last one being in the Bangalore District, where results were obtained showing a clear profit to the owner of Rs. 275-5-10 per acre above that obtained from a lot manured with ordinary country manure. These results were arrived at when Nitrate of Soda was Rs. 450 per ton, at present rates it should work out at a profit of Rs. 293-14-10 per acre.

It would not be a bad idea if the Planter who has the most available land suitable for sugarcane sets up a mill for crushing the canes, and his neighbours might send all their canes to him for the same purpose.

(Communicated.)

MANIHOT SEED AND OIL.

A correspondent sends us the following paragraph, which appeared under the above heading in the *Times Weekly*, dated 6th December last. *Manihot Glaziovii* is, of course, the well-known Ceara Rubber. We have had one or two enquiries recently relating to Hevea Rubber Seed Oil, and, although we have collected some information from the text books, if any planter has practical knowledge of this product, an account of his experiences would be very welcome.

Manihot Seed and Oil.

The manihot, a well-known rubber plant in Brazil, has not hitherto been considered as a very valuable source of vegetable oil. The Germans, however, in their desperate search for oil from any quarter, have turned their attention also to this plant. They planted large areas of manihot in German East Africa for the production of rubber, and they now propose to consider seriously the possibility of obtaining oil from the plant.

In 1917, the *Institut fur angewandte Botanik* (Institute for Applied Botany) received samples of three varieties of manihot from a Hamburg firm, and the Institute's examination of these three samples has just been published. The following table gives the percentages of shell and oil in the seed :—

	M. glaziovii. per cent.	M. dichotoma. per cent.	M. piauhyensis. per cent.
Shell... ...	73·25	68·25	74·25
Kernel ...	26·75	31·75	25·75
Oil in kernel ...	41·34	46·14	48·95
Oil in whole seed ...	11·06	14·65	12·61

Technical manihot oil was prepared from a mixture of 67 per cent. dichotoma, 30 per cent piauhyensis, and 3 per cent glaziovii unshelled manihot seeds, the yield by extraction being 13 per cent. On the basis of the figures given above, the theoretical yield should amount to 14·15 per cent., and an analysis of the residue showed an oil content of 1·3 per cent. The fatty acids are hard, and of brown colour. This technical or unrefined oil is chiefly used in the manufacture of varnish and soap. The residual cake is said to be a valuable cattle food.

CHROME TANNING IN SOUTH INDIA.

With reference to the prospectus which appears in our pages to-day concerning a new company in the above connection— the Ratan Chrome Tanneries Ltd.. we take the following from the Bangalore *Daily Post*, of 20th December last.

Those who have made a practice of wearing chrome-tanned leather must be well aware of its excellence, and, independently of the fact that enterprise is always to be encouraged, it is entirely satisfactory to find that this particular industry is not to be allowed to deteriorate, but on the other hand shows symptoms of expansion. There are *Swadeshi* movements *and Swadeshi* movements, but the Ratan Chrome Tanneries is of a nature which can be productive of nothing but a warm welcome and hearty good-wishes from all fair-minded men, to say nothing of the general public. Indigenous industry and enterprise is always pleasant to contemplate, and that is exactly what the Ratan Chrome Tanneries represent.

The capital consists of 5 lakhs of rupees in ten rupee shares, and, it is estimated that a profit of thirty per cent. will be realised. From a purely

business point of view, it seems to us that the prospects of the new company are more than bright. In the tanning industry, Mr. N. S. T. Chari's name is one to conjure with, he was associated with Sir Alfred Chatterton for many years in the earlier tanning experiments, and the wide experience he then gained has established his undisputed reputation as an expert. Since the early days, Mr. Chari has constantly increased his acquaintance with the tanning industry, he is, we believe, now the directing head of five Indian tanneries, and he has the knack of imparting knowledge to those under him—an accomplishment which does not always necessarily accompany the possession of knowledge itself. The present demand for chrome-tanned leather is indisputable—we have had personal proof of the fact in conversations with leather dealers—and there can be no doubt that such leather will never become a drug upon the market, either locally or, if intended for export. Mr. N. S. T. Chari's is not the only influential name associated with the Ratan Chrome Tanneries, Ltd. Mr. Narayandoss Ghridharidoss is a well-known and successful business-man of the Guzeratti community, and his longstanding connection with the firm of Messrs. Chathoorbhujadoss Khoosaldoss and Sons is enough to establish his reputation as a business-man. We welcome this company from every point of view, and are confident that it should present the soundest of sound opportunities for investors. This is the sort of thing which moneyed Indians should support, instead, as unfortunately often happens, either declining to speculate in anything which pays more than three and a half per cent., or else proceeding to the other extreme of seeking usurious interest.

NOTES AND NEWS.

OBITUARY.

Following immediately upon the death of Mr. Pollock comes the news of the death under tragic circumstances of H. B. Kirk, part owner of Peravanthanam Estate, Mundakayam, and one of the pioneer planters of that district. He came to Mundakayam in 1906 from Peermade, after some years spent in Ceylon, and was the first man to plant tea in the district. He was Chairman of the Mundakayam P. A. in 1914 and represented that Association at Bangalore in the same year. The late Mr. Kirk was an athlete of some repute in Ceylon, and, apart from being a tennis player of more than ordinary merit, established a record for the half mile in that island which, though equalled in recent years by a young Ceylonese, has not so far been beaten, we believe.

Another old friend of the Planting Community, very well-known in Travancore, was the late Rev. J. Osmaston. His tragic death from drowning on his journey down from Munnar to Alwaye deprives the High Range, Peermade and Mundakayam of a much loved "padre" and sincere friend. He was, indeed, a "sportsman" in the greatest sense of the word, and those of us who have sat under him at the little Church in Mundakayam or in Peermade will never forget his great gifts of self-sacrifice and good fellowship. Though under no obligation whatever to do so he has many times walked distances in a most trying climate to give services to planters and others, who never failed to return the compliment, and invariably mustered in full strength, thus giving even more encouragement, if such were needed, to this "fighting parson."

PLANTERS' LABOUR ACT, 1903.

A. G. O. states:— "Under Section 4 of the Madras Planters' Labour Act, 1903, the Governor-in-Council is pleased to authorize Mr. Edwin Harton Stonehewer, Superintendent, Rousdon Mullai Estate, Gudalur Taluk, Nilgiri District, to attest the execution of labour contracts."

THE BENEVOLENT FUND.

The list of patrons to this fund is again added to this week, and will, in future, include the name of Mr. A. S. Dandison, Chairman, U. P. A. S. I. The fund grows slowly, and there is a peculiarity about its growth which may well be made more widely known. It is the curious fact that the major part of this year's receipts is made up of money received from patrons, the rank and file at Rs. 10 are conspicuous by their almost non-existence. The big subscriptions tide the fund over an anxious time perhaps, but it must be remembered they are seldom repeated. and, welcome as they are, it is the steady yearly income from the smaller subscribers to which we would now call the attention of Honorary Secretaries. Many new men have come to the country recently, they and the laggards of the "old gang" have only to be reminded of their obligations, and we are sure the fund would receive the necessary fillip it requires to place it on a sound footing.

PENTLAND PORTRAIT FUND.

Donations received by the Secretary, U. P. A. S. I. :—

		Rs.	A.	P.
Amount previously acknowledged	...	590	0	0
Mr. J. S. Wilkie	...	25	0	0
Total...		615	0	0

Cheques should be made payable to the Secretary, U. P. A. S. I., Coimbatore.

INDIAN TEA ASSOCIATION, ASSAM BRANCH.

Scientific Department.

Speaking at the Annual General Meeting of the Assam Branch, Indian Tea Association, held at Dibrugarh District Club, on Saturday, 15th November, 1919, the Chairman, the Hon'ble Mr. A. L. Playfair, said :—

You are probably all aware that Dr. Hope's engagement as Chief Scientific Officer has been terminated, and that the appointment has been accepted by Mr. Carpenter. While extending our sympathy to Dr. Hope, in connection with the reasons leading to his retirement, we can offer our congratulations to Mr. Carpenter as his successor. The latter has, during the year, submitted a scheme for extending the activities of the Scientific Department, and this has been reported on by the Scientific Department Sub-Committee, Indian Tea Association, Calcutta, and by the General Committee of that Association, and this Branch has been asked to submit any comments or useful suggestions they may wish to make, in regard to the recommendations which have been made, and your General Committee will consider the matter at their meeting this afternoon. Mr. Carpenter is here to-day, and I will ask him to be good enough to give you a resume of the work of the Department during the past year, together with some idea of the work which it is proposed to carry out in the future.

Mr. Carpenter, rising, addressed the meeting as follows :—

Mr. Chairman and Gentlemen.—The return of two officers, Mr. Cooper and myself, from military duty has allowed the work of the Department to be extended, but we have been very seriously handicapped by the continued absence of Dr. Hope, and, it is with very great regret that I learned only the other day that his health will not permit him to return to this country, and he has had to send in his resignation in consequence, the Tea

Industry thereby losing a very able and experienced officer, and his loss will, I am sure, be felt not only by the Scientific Department, but by many planters as well.

The extension of the work of the Department has chiefly been in the direction of touring. It was thought that, since very little had been possible during the war, it was very advisable that as much as possible should be done this year, and Mr. Cooper or myself have toured every month. We have thus been able to visit very briefly most of the tea districts that are furthest distant from Tocklai. The districts near the Experimental Station we have been unable to visit, but in these districts planters are comparatively easily situated for visiting us, and would doubtless do so if necessity arose.

The Chemical Department has confined its research work almost entirely to matters relating directly or indirectly to mosquito blight attack. Further work has been carried out to ascertain factors that determine the variations in the amounts of available potash and phosphoric acid. In addition to this it was thought to be desirable to determine some of the factors affecting nitrification in soils, and experiments in the laboratory, with and without the use of lime and at different degrees of water saturation, were made. This was important since finding that mosquito blight attack and inefficient drainage of a soil are so often closely connected. Experiments to determine conditions affecting the rate of oxidation of the organic matter in soils were also made.

Mr. Andrews carried out at Numaligarh, by the kind permission of the Superintendent of the Jorehaut Tea Company, and with the enthusiastic assistance of the Manager, Mr. W. B. Miller, field experiments to further demonstrate the correctness of our views in regard to the available potash-phosphoric acid theory in connection with mosquito blight. The addition of potash to the soil yielded slow and uncertain results. A marked effect was produced on one soil and scarcely any on another. This matter is receiving attention from the Chemical Department. A method, however, was necessary whereby it could be ensured that soluble potash came into actual contact with the roots of the bush, and this was obtained by forking away the soil from the fine hairy roots growing near the collar of the bush, collecting these into a bundle and placing them in a 50 cigarette round tin containing a 1% solution of some potash salt. A cover was placed over the tin, and the soil replaced, thus burying the tin with the roots still in the solution. The bushes chosen for experiment were individual bushes which were badly attacked by mosquito, and which were surrounded by four bushes also badly attacked. No two treated bushes were then next to each other. In each case the bush for treatment was completely shut up. Three potassium salts were used, the Chloride, Sulphate and Nitrate. In all these cases the mosquito disappeared from the bush about 20 days after treatment and the bushes became quite green, and have remained so. The bushes receiving the chloride and sulphate also began to flush vigorously, and have continued to do so until the end of the season. The bushes receiving nitrate threw off the mosquito and became green, but gave banjy leaf at each plucking. Most definite proof has, therefore, been obtained that the supply of solution potash to a bush has very great controlling influence upon the attack of mosquito.

I have referred at some length to the work that has been done in connection with mosquito blight, and, since it is not a generally troublesome pest in Assam, some of you may consider yourselves but little interested, but the presence of mosquito in the Valley indicates that, should conditions undergo some necessary but perhaps slight change in the course of time, the pest may become serious here, and it consequently behoves you all to

take at least an indirect interest in the work that is being done in this direction. I am glad to be able to add that I feel confident that, in many instances, it is now possible by systematic soil treatment to cause the attacks of this pest to become slight, if its disappearance altogether cannot be obtained. Perhaps you will remember a circular memorandum that was published by the Department a short time ago, in which was embodied our views on mosquito blight, and in which we laid down what was the controlling factor, namely, the vitality of the bush. This is a new theory in connection with disease control, and, although for some time past we have known this, yet it was not until we had quite satisfied ourselves upon the correctness of the theory that we have felt (? justified in) advocating its adoption by the tea industry. It constitutes an almost radical change in the methods of pest and blight control, not only in tea, but in all other crops. Now this theory does not apply to the control of mosquito only, but also to red spider and red rust, to mention but two of the commonly occurring diseases of tea, and I should like to make a few remarks about the control of these two diseases, as they are of more particular interest to those interested in tea culture in Assam. The treatment that I notice very generally adopted for the prevention of the attack of red spider is to spray or dust the bushes with sulphur, either in liquid form as lime sulphur or as liver of sulphur or as powdered sulphur. Now this treatment cannot be regarded as a cure for red spider. It controls the attack for the season, but the same means have to be adopted in the following years, and, if the sulphur is omitted in any year, it is quite likely that red spider will seriously attack the bushes. Now that I do not consider correct treatment. It should rather be sought to render the bushes immune to attack, and this can be done by improving their health. An attack of red spider must be regarded as indicating weakness of the bushes from some cause or another, and the cause of this weakness can be found in improper soil conditions and in weakness of growth in the bush itself. The treatment, then, for controlling red spider must be the improvement of soil conditions, as for instance improving drainage, and manuring, and in removal of hide binding from the stems of bushes and in better forms of pruning, etc., etc. The same principle applies to the control of red rust. Now, I have referred to the vitality or health of a bush, and a proper understanding of this term is obviously essential. A good looking bush need not necessarily be a healthy one, that is to say, one having a great amount of vitality. Perhaps I can make this clear by an analogy. You all know the very fine appearance that a prize stall-fed bull has, but I think few people will be prepared to state that its vitality and ability to resist disease is equal to that of a similar animal allowed to run free on a ranch in Canada, although the latter animal's appearance is probably by no means so fine to an ordinary observer as is that of the former. A fine looking tea bush may be the result of forced or unnatural growth, as in the case of bheel soils, or, it may be the result of improper manuring, such as overstimulation with nitrogen, and its vitality in consequence may not be high. It is therefore wrong to say that healthy tea is suffering from a disease attack, but the fact of the disease attack must be regarded rather as an indication of unhealthiness of the bush whatever its appearance may be. This brings me to the work of the Mycological Department. This year brown blight has been very prevalent throughout tea, and it was noticed that bushes in a poor state were the more readily attacked, and at Tocklai several bushes were treated by the same method as that adopted in the experiments on mosquito. It was found that bushes treated in this manner with nitrogenous manures became still more subject to attack, thus affording further evidence in favour of the above-

mentioned theory, as these bushes had earlier in the year received a liberal application of nitrogenous manures. Much work has been done during the year in connection with this disease, and its identity with similar diseases on jungle trees has been established. It has been prepared in pure cultures in the laboratory, and all stages of its development have been observed. The treatment that has been recommended for its control has been proved successful where carried out fully, but attention must be given to the improvement of the health of the bush, for such matters as water-logging and deficiency of organic matter in the soil have been found to exert a very considerable influence upon the intensity of the attack. I have here two coloured-photographs, prepared at Tocklai, showing both brown blight and grey blight, and the similarity in general appearance of the two diseases may be noted.

Other diseases which have been found to be closely connected with soil conditions are root diseases, and it has been found that those commonly occurring in the tea districts are largely influenced by soil acidity, and any cause tending to increase acidity will tend also to increase liability to attack. Now, just a further word about these diseases. It is often very difficult to know of their existence in a section of tea until a bush suddenly dies. When conditions favourable to the development of the disease arise, the disease will spread with alarming rapidity, and little or nothing can be done for its rapid control when it is in what may be termed epidemic form. Alteration of soil conditions take a long time, so, it is absolutely necessary to take steps to stamp out the disease upon the first sign of its presence, that is to say, so soon as one bush is noticed to have died from root disease. When a bush dies in a section, as odd bushes do every now and then, but little notice of this is often taken, and it is attributed to damage by hoeing or a variety of other causes, but I must strongly advise you to take steps to make sure of the cause of death, and to ascertain definitely whether root disease is present or not. This cannot be done always by a casual examination of the bush.

As regards blister blight, the Mycologist toured in the forests of the Darjeeling districts bordering on Thibet during this year, and found many specimens of this species on rhodendron. This plant has been found to exist in a belt of the Himalayas corresponding with heavy rainfall. Where no deep valleys intervene between the rhodendron belt and the plains, blister blight is noticeable in the tea. A note has already been published in the Quarterly Journal of this year. The longevity of the more common fungi of leaf diseases has been investigated, and it was found that they can survive for many months, prolonged exposure to sunlight kills all of them. That the fungi can exist for long periods of time is of importance, in that disease twigs and leaves left on the ground under the shade of the tea bushes will act as centres of infection during the next season, and consequently every practicable endeavour must be made to remove these. This can be done by collection and burning, or by burial at such a depth that they will not turn up with subsequent cultivation.

I have previously referred to spraying, and that this form of disease control must be regarded as a palliative and, not as a cure, but it must be allowed that it has its use, and if properly used, is of great value. It should be regarded more as a means of ensuring freedom from disease attack whilst special treatment is being given to the soil or bushes, and in the cases of several diseases it is at present the only form of treatment that can

be recommended. In this connection it is most necessary that, so soon as a disease to be so treated makes its appearance, it be sprayed at once, and to do this the requisite spraying machines and materials must be present on a garden, and it should not be necessary after the appearance of the disease to have to send to Calcutta for the machines or the chemicals required, as in this case it will almost certainly be too late to do anything effective. The materials for the more common spray fluids, such as lime sulphur and Bordeaux and Burgundy mixture, should always be kept in stock on gardens, and the machines ready for use at a minute's notice.

The Mycologist continued to pay attention to work in connection with green manures and shade trees and tea garden weeds and other botanical work, but it was found impossible to do much in this direction, as his time was so fully occupied with the work of his own Department.

The study of plant breeding, grafting, etc., and the selection of new tea varieties are matters that cannot be undertaken at present.

With regard to the Field Work of the Experimental Station, I have not much to say, since the results will be published in the Quarterly Journal and a better description can be then given than I can do now, but I should like to call attention to one or two points. We have found that the use of a tine cultivator drawn by a buffalo has given very satisfactory results in clearances, and all the light cultivation done this year has been in this manner, and labour has been saved.

For keeping nurseries clean we have used the single wheel Planet or Iron Age hand cultivators, and these have done good work and saved a considerable amount of labour, and, besides, considerably more cultivation has been possible.

We have also found good results from the use of a hand drill for sowing green crop seeds. This ensures a much more even distribution of the seed, and that it is sown in the place desired. It is particularly useful when small seeds are used that are difficult to sow evenly by hand.

The nitrogenous manure experiments shewed interesting results, in that the residual effect of an application of lime was clearly noticed after 3 years.

When sub-soil is exposed on the surface, as may happen for instance by filling in hollow places or by cutting down small teelahs, it is only with difficulty and sometimes not at all that plants can be made to grow. As a first crop on such soil we have found Crotolaria Striata to be particularly useful. It will often grow where no other leguminous crops can be raised.

Experiments on tea with heavy doses of lime, varying up to 400 maunds per acre of crushed limestone and 200 maunds per acre of quicklime, have shown that such heavy doses have no marked ill-effect. The land where the experiments are situated was not in need of lime, and consequently, as was expected, no noticeable benefit has been observed. In all cases the bushes are developing good wood.

16 new plots have been planted out with tea for experimental purposes, eight with Betjan and eight with Bazalony seeds.

45 small plots of tea were sown with different kinds of tea seed, in order to obtain a collection of many of the different jats of tea seed commonly used on gardens. They are planted in one area, and differences in the manner of growth, etc. of the different varieties can thus be compared.

The leaf varieties of other plots have been kept, but no experimental work has been commenced with them, since it is first necessary to determine the relative values of the plots.

The Planters' Chronicle.

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Edwin Vincent, Managing Editor, Coimbatore.

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PRICE of "A" Coffee.

(BY CABLE.)

LONDON, 9TH JANUARY, 1920.

160s/- *per cwt. Market firm.*

ESTATE COOLIES.

Elsewhere in this issue, we publish an interview which a representative of the *Malay Weekly Mail* has had with the Hon'ble Mr. Macfayden. Mr. Macfayden is the Planting Member of Council in the F. M. S., and, as such, his opinions carry weight and are worthy of consideration. The question he has discussed with his interviewer is one of great moment at present with South Indian Planters, and is in fact one of the most important cogs in the Estate Labour Machinery of this country. We remember, it is only a few years ago, the outcry which was raised by the Tea districts, when, with the advent of rubber, planters of this commodity raised the standard of wages paid to Estate labour, and laid down a minimum of six annas per day for men and four annas for women. Later, the pay of the women was in many cases increased to five annas when tapping began, and the reason for this was of course to counter-balance the increased pay a woman could earn in plucking. At first the increase of pay to the men did not attract families for the reason just stated, and, although some planters will be heard to express the opinion that women make the best tappers, it is our own opinion that they are too irrresponsible, and the best labour for this work is to be found in the boys of from 10 to 16, to whom most Rubber Planters now-a-days we believe pin their faith, and, in fact, pay the full rate of six annas as for men. This tendency has been considerably helped along by the position of Rubber Estates generally and by the nature of the work. The coast cooly and the low country people of Travancore do not like the rigours of climate experienced in most tea districts, and, added to this, there is the fact that the Moplah is fond of tapping work, as it is a clean job which

does not ruffle his religious susceptibilities. Thus arose a demand for work from a class which would otherwise have refrained from migration for Estate work, and employment was therefore found for the younger sons of the more respectable families, who would have looked askance at any such work as digging, manuring, etc., performed by his lower caste brethren and the general run of pariah cooly. Now, this class of tapper does not take his women-folk to estates of course, and, such work as can better be done by women is given to the local Pulaya, Cheruma, or Choyan, as the case may be, who are more apt to cultivation work, and are in fact of insufficient intelligence for such skilled labour as tapping. It follows that in many rubber districts the Tamil cooly is gradually being pushed out, and, on many estates is now scarcely employed. This would seem to indicate a greater supply of labour for the tea and coffee districts and that this has been the case, is, we think, proved by the fact that rates in these districts have not risen, except that men in some tea districts are now paid at the rate of six annas and women (non-pluckers) four annas. The plucking rates remain as they were, since it is piece work, and the rates are high enough to attract the women. Each district, of course, has its peculiarities which may lead one to say it differs from the general rule, but we think the general tendency has been very much as we have described it. Some districts, combining tea and rubber for instance, profit by this tendency, and Estates with these two products find less difficulty in getting labour than those whose cry is for more women, or more men, as the case may be.

It is generally admitted, and is in fact an unfortunate certainty, that the year 1919 has been a bad one for labour in the tea and coffee districts of South India. There are several factors which have had their influence in bringing about this state of affairs. Competition, of course, is the first reason to spring into one's mind as the main cause. For the reasons stated we do not think this competition comes from the Rubber districts. Not only is the Rubber planter satisfied, in fact well off, with Moplah-cum-local labour, but the rate of increase in expansion has dropped enormously. The area under rubber this year shows an almost insignificant increase compared with that of the pre-war period, and there is in addition the usually unconsidered fact that, as areas come into bearing, less labour is employed, This goes on decreasing with thinning out operations, so that a conservative estimate of 100 trees per acre and a cooly tapping 300 trees gives 1/3 of a cooly per acre for tapping. These two facts make indisputable the assertion that the competition does not come from the rubber districts. On the other hand one hears of new extensions in tea on all sides, and it is not an uncommon thing to find companies already short of labour embarking on programmes which must result in cutting their own throats, so far as labour is concerned. This policy of new extensions would be all right if the country were not faced with the exodus in 1919 of at least 80,000 coolies to Ceylon and the Straits, and it is this external competition which the Labour Department is called upon to face. We have said once before in these columns that, without help from the employer, no labour department or commission can be expected to persuade the cooly that he is better off at home than abroad, and we remain convinced that, until this aspect of the case is considered, the country will be depleted of its best labour and the planters of South India be left with the rejections of Ceylon and the Straits. Now there are two ways in which the planter can help in combating competition from abroad. He must give concession for concession, and every move made by his competitors to make foreign countries more attractive must be met by similar moves here. We are honestly convinced that estate managers and proprietors now-a-days have come to realize that Ramasawmy must be made more comfortable

if he is to be persuaded that "East, West, home's best." To this end better housing accommodation, medical attendance, personal care and attention to grievances, are the order of the day, but have they gone far enough. As in Malaya, extra rice is given, so that the increased cost of food-stuffs does not press heavily on the cooly, but in this country, with the exceptions noted, the rates of pay have remained constant, the way expenses to the estate and return make a big hole in the cooly's pay, and it only requires some extraneous influence such as the epidemic of influenza in 1918 to bring down the whole structure like a house of cards.

The great economic difficulty in raising rates of pay to meet an emergency is, of course, the fact that, with the passing of the emergent cause, the rates can never again be reduced to their prior level. This is what is the matter with labour at home in England, and is also the reason, sometimes unconsciously, of concession granted to labour in this country, such as extra rice, famine batta, free cumblies, etc., by which, although rates remain constant, they are virtually raised, and when the time comes for the removal of these concessions there is a demand from the labourer to make them good or at least give a partial *quid pro quo* by raising the standard of pay. The cooly is not often given credit for sufficient intelligence to argue on the lines indicated above, and this, we think, is where some planters err. The times are such that the uttermost untouchable is represented on public bodies, and the class from which estates recruit their labour is becoming more and more articulate every day. This new tendency is another factor which has to be faced by those who are conservative enough to consider that the old days are only a few hands-full of rice removed from this year of grace.

Summing up then, if South Indian Planters are going to help the Labour Department by helping themselves, they must consider :—

1. Improving local conditions by which planting districts may be made more attractive to the cooly.
2. Standardising rates of pay.
3. The advisability of bearing the cost of way expenses, either by direct payment or rebate to the cooly, at the end of his contract.

Unless this is done, it does not seem politic to spend money in advertising and investigating new areas. The latter idea has rightly gained ground, since the enlargement of existing connections is rapidly reaching its limit, if not already at that point.

THE SCIENTIFIC DEPARTMENT, U. P. A. S. I.

The Planter's Library.

Government Publications.

A number of publications of the Madras Agricultural Department are available at very small prices, and many of these deal with subjects of interest to planters. This fact does not appear to be generally known, so a list is published below for general information of such publications as are likely to be of use to planters. Copies of the Bulletins mentioned can be obtained from the Superintendent, the Government Press, Madras, at the prices quoted, and of the leaflets free of charge from the Director of Agriculture, Madras.

Bulletin No.	Subject.	Price.
28.	The Ground, Earth, Pea-nut ...	2 annas.
31.	The care and management of Farm Manure in South India	6 pies
37.	The Ground-nut	1½ annas.
47.	Note on simple machines for extracting plantation fibre	2 annas.
56.	The varieties of cultivated pepper ...	3 annas.
58.	The cultivation of ground-nuts ...	9 pies.

Leaflet No.	Subject,	Price.
64.	Hindupur Agave Plantation	... 3 pies.
69.	Bees and the Fertilisation of Coffee	... 3 annas.
72.	A Brief Survey of Madras Live Stock	... 12 annas.

Leaflet No.	Subject.
8 of 1913.	Castration and Mulling.
9 of 1917.	The Cocoanut.
8 of 1911.	A Note on Cocoanut Beetles.
11 of 1911.	Cambodia Cotton.
6 of 1910.	A Note on hairy caterpillars.
3 of 1912.	Deccan Grasshopper Pest.
2 of 1915.	Insect Pests.
3 of 1914.	Some general methods of controlling attacks by insect pests—Agricultural Methods.
4 of 1914.	Some general methods of controlling attacks of insect pests. Mechanical Methods.
5 of 1917.	A few home-made remedies against some common plant pests.
6 of 1918.	How to start and maintain a Mango garden.
3 of 1917.	The Mango-hopper and its control.
1 of 1917.	Guinea Grass.
23 of 1911.	Ginger cultivation on the West Coast.
8 of 1910.	Note on the conservation of cattle urine.
14 of 1911.	The preservation of farm-yard manure.
13 of 1910.	Single planting 3 feet apart and manuring of individual plants.
24 of 1911.	Paddy manuring (in Tamil and Telugu only.)
4 of 1910.	Single planting of paddy.
10 of 1911.	Daincha.
1 of 1911.	Instructions for sending plants attacked with parasitic fungi.
7 of 1914.	The Mahate or Koleroga disease of Arecanuts.
4 of 1915.	Compressed air sprayer for spraying Cocoanuts.
5 of 1915.	Water Hyacinth.
2 of 1916.	Some uses of Prickly Pear.
12 of 1911.	Note on Potato crop.

The Mysore Agricultural Department have published the following Bulletins which may be of interest to planters. They are obtainable from the Director of Agriculture, Mysore Agricultural Department, Bangalore, at the prices quoted.

Bulletin.	Subject.	Price.
6. General Series.	Coffee; its cultivation and manuring in Southern India, by Mr. Anstead.	2 annas.
10. Do.	The Cultivation of the Areca Palm in Mysore. ...	
4. Entomological Series.	Some scale insect pests of Coffee...	Re. 1.
Circular 26.	Methods of cultivating Ragi (in Kannada only)	1 anna.

In addition to this, the following books have been published by the Madras Agricultural Department, and all are thoroughly recommended to planters :—

1. Some South Indian Insects, by T. Bainbrigge Fletcher....Rs. 6.
2. A Note Book of Agricultural Facts and Figures, by R. C. Wood.Re. 1.
3. A Manual of Elementary Botany for India, by Ranga Achariyar.Rs. 2.

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

DISTRICT PLANTERS' ASSOCIATION.

Wynaad Planters' Association.

Proceedings of Annual General Meeting, held at Meppadi Club, on January 7th, 1920.

PRESENT.—Messrs. Blackham, Blackett, Charsley, Darkin, Eyre, Gwynne, Malcolm, Powell and Abbott, Honorary Secretary. *Visitors.*—Messrs. Clarke and Howe.

In the chair Mr. Eyre.

PROCEEDINGS OF LAST MEETING.—These were confirmed.

2269. LABOUR LAW AMENDMENTS.—Read letter from Mr. Waddington, dated January 3rd. Resolved that, if it is necessary to hold a General Committee Meeting of the U. P. A. S. I., we have no objection to short notice being given.

The Meeting resolved to record its approval of the resolution of the Nilgiri-Wynaad Association on this subject. While willing to accept the deletion of clauses 28, 32 and 43 from the Madras Planters' Labour Law, we wish to emphasise the necessity of retaining clause 24.

2270. GRAIN.—Read letters from Honorary Secretary to the Collector of Malabar and the Divisional Officer, Wynaad, Mr. Woodhonse. These were approved. Read, also, letter from Mr. Malcolm to Mr. Woodhouse. After discussion, it was resolved to instruct the Honorary Secretary to write to the Collector of Malabar and point out that, as we have to support a large number of coolies in Wynaad from outside Districts, Mysore, Coimbatore, S. Canara and Malabar, we trust that the restrictions on the removal of grain from Wynad, will be maintained. As a great deal of smuggling is going on, the Association is willing to pay for the services of a special European Inspector to prevent it, if Government will sanction the appointment.

2271. POODAPADY HOTEL.—Resolved to pay Rs. 50 for repairs this year, and to give Chungaren, Butler, Rs. 12 a month.

2272. INDIAN DEFENCE FORCE.—The Meeting, several ex-army officers being present, agreed generally with Mr. Waddington's letter of January 2nd, and also approved the views of the Calcutta meeting reported in the *Madras Mail* of 5th.

2273. SOUTH INDIA PLANTERS' BENEVOLENT FUND.—Read circular letter and a further request from the Secretary, U. P. A. S. I. that we should consider the matter. After some discussion it was resolved that, while we readily admit that much good has been done by the Fund, we believe that no regular subscriber has ever benefitted by it, and that, if it is to be fully supported by the whole body of planters, it ought to be re-established on such a basis that nobody but a patron or a regular subscriber could possibly benefit by it, just as in the case of an Insurance Company or a Provident Fund. We think the subject ought to be discussed at the Annual Meeting of the U. P. A. S. I., with a view to placing the fund on a sound and permanent basis.

2274. ANNUAL REPORT AND STATEMENT OF ACCOUNTS.—The Honorary Secretary read his report.

ANNUAL REPORT, 1919.

There have been eight general meetings during the past year, which have been well attended. We also held an informal meeting with the Director of Agriculture, Mr. R. C. Wood, and Mr. Anstead on September 30th, at which there was an interesting discussion on various subjects. The acreage now subscribing to the Association is Tea 10,272 acres, Rubber 61 acres and Coffee & Pepper 526 acres—10,859 in all.

THE WAR.—Out of the 12 members of the Association who joined the Army, we have welcomed back four, and we have several new members who have been through the war.

SEASON AND CROPS.—The year has been a somewhat difficult one for our industry. Prices for tea have been good since the Food Controller freed the market, and coffee prices have been excellent. Crops, however, have not been up to expectation, and there has been a shortage of labour throughout the District, as well as elsewhere. This has been due to various causes. We lost a large number of coolies in the influenza epidemic in 1918, and, though we have happily escaped a serious outbreak this year, we have had cases on several estates. There are also large openings of new land being undertaken both in Wynaad and in the low country, and this has brought about competition for what labour is available in our usual recruiting grounds. I have been seen correspondence which indicates that the Mysore Authorities are discouraging the movement of Mysore coolies to planting districts in British India, while I understand they have established a recruiting depot in British Territory for importing South Canara coolies to Mysore. There is no doubt that the only remedy is the one proposed by Mr. Malcolm at the Bangalore Meeting of the U. P. A. S. I. We must find entirely new recruiting areas. At present the limited number of coolies available move from one estate, or even from one district to another, as inducement offers. It is known that further large extensions of the area under tea in Wynaad are contemplated. There is no reason why these should not be carried out if labour is properly organised. Messrs. James Finlay & Co. have planted 20,000 acres of tea in an even more difficult country, and have, I believe, never raised rates beyond those now usually current in Wynaad. But in the Kanen Devans there has always been a general agreement on labour matters. Though other large interests have come in, this agreement seems to hold good, and those of us who have visited the District have seen the excellent results. General agreement as to rates and conditions are especially required at a time when Government is considering labour legislation that may affect our interests adversely. What we want to avoid is waste. At the present time, everyone we employ, grain sellers, coolies, cartmen and contractors are profiteering at the planters' expense. Tea at 1*s.* 5*d.* per lb. in London looks as if it would pay for anything. But, as we have to get our sale proceeds out to work our estates at 8 rupees instead of 15 rupees to the pound sterling, we know that it will not.

GRAIN PRICES.—We have continued throughout the year to struggle against the difficulty caused by the high prices of food stuffs. The restrictions on the export of rice from Mysore have continued. We have not been allowed to have any for South Wynaad, and have been dependent during the greater part of the year on supplies from Burmah. The imports of ragi have been also rationed. Mr. Powell and Mr. Blackham, at the request of the Association, went to Mysore and Gundulpet in May last and interviewed the Deputy Commissioner, Mr. Bowring. By their efforts a considerable improvement was made for a time in allowing us to have the ragi we were entitled to by the agreement between the Madras and Mysore

Governments. But though the Deputy Commissioner was anxious to do all he could for us, there was, speaking generally, a good deal of obstruction on the part of the minor officials. As crops have been good in Mysore, there appears to be no reason why these restrictions should be continued. Of course, as I said a year ago, Wynaad produces sufficient grain for all our requirements. But both rice and ragi are being held up by producers in the hope of free export being permitted, a good deal of smuggling out of Wynaad is going on, and the Mysore restrictions encourage profiteering. The rates of cart-hire have been greatly increased, Rs, 2-8-0 per bag being demanded for bringing up rice from Calicut. The result of all this is that most estates have had to incur heavy losses in supplying their coolies with food. One planter has had to write off Rs. 8,247 in 8 months under this head. We have to thank the successive Collectors of Malabar, Mr. Evans, Mr. Hall and Mr. Thomas, and Mr. Woodhouse, the Divisional Officer of Wynaad, for helping us through our difficulties. The grain question must have added very considerably to their ordinary work.

THE DISTRICT BOARD.—Mr. Powell is now a Member of the District Board. He has been elected by the Taluq Board. For some months we were without a representative. Hitherto, we have always been allowed to nominate one of our members direct. But, owing to a change in the Government regulations, this privilege has been withdrawn. I think that the largest body of tax-payers in Wynaad ought to have their own member, and I hope this subject will be taken up.

MANANTODDY-SHORANUR RAILWAY.—The survey for this line has been completed during the year and the U. P. A. S. I. has asked to have the work put in hand at an early date. A great deal of the heavier work that it was supposed would have to be undertaken will be avoided by Mr. Hartle's new alignment. Statistics as to the probable traffic have been asked for by the Collector of Malabar, and I hope that those to whom I have applied for information on the subject will send it to me as soon as possible.

LABOUR LAWS.—We have fully discussed proposals made by Government for altering the labour laws. There appears to be no cause for these alterations. Our views on the subject have been sent to the Collector of Malabar to be placed before Government. The only suggestion I have to make is that, if the Meeting approves, we might adopt the additions the Nilgiri Wynaad Association made to our resolution.

INCORPORATION.—We learn from the *Planters Chronicle* that the Articles of Incorporation, as altered by us, have been sent to the Associations' solicitors to be put into form.

CO-OPERATIVE STORES.—At our August meeting, Mr. Eyre suggested the establishment of a Co-operative Store at some central place, all shares to be held by planters in default of the introduction of the cash on delivery system with Europe. He alluded to the exorbitant prices which were being charged by Madras Firms for all supplies. The suggestion was very well received by the delegates of all the Associations at Bangalore, and a Committee was appointed to put it into shape. The proposals put forward by the Committee have grown considerably beyond what was first intended. But this is all to the good. It is understood that not only Planters but the public generally are anxious to subscribe. Meanwhile, Madras rates remain much as they were. Let us hope that before long the Planters' Co-operative Stores will enable us to purchase what we require at reasonable cost.

I thank you all for your friendly support and assistance during a year in which there was an unusual amount of Association work. I am specially indebted to Mr. Malcolm, my colleague on the general council of the

U. P. A. S. I. I now ask you to pass the accounts, if found in order, and to accept my resignation.

Mr. Eyre, in proposing a vote of thanks to the Honorary Secretary, said that, as Chairman on behalf of the Association he thanked Mr. Abbott for all the work he had done, and that Mr. Abbott's very sound judgment had been of the greatest benefit to the Association and the District especially during the past two years, and that members of the Association very much appreciated all that had been done on their behalf. Mr. Malcolm also spoke. The Hony. Secretary thanked the Meeting.

The accounts were passed as correct. The subscription for local expenses for 1920 was fixed at 3 annas per cultivated acre.

2275. HONORARY SECRETARY.— Mr. Gwynne was elected Honorary Secretary.

2276. DELEGATES.—Mr. Gwynne and Mr. Eyre were elected as Delegates to the General Committee of the U. P. A. S. I.

A vote of thanks to the Chair terminated the proceedings.

(Signed) E. E. EYRE,
Chairman.

(,,) C. E. ABBOTT,
Hon. Secretary.

SOUTHERN INDIA PLANTERS' BENEVOLENT FUND.

From the proceedings of the Annual Meeting of the Wynaad Planters' Association, published elsewhere in this number, it will be seen that they suggest that the subject of this fund should be brought up at the next Annual Meeting, with a view to placing the fund on a sound and permanent basis, and, it is sincerely to be hoped that this will be done. Whether it is the wish of the general community that under no circumstances whatever shall non-subscribers or their families benefit by it, we are not in a position to tell, but if all planters would support the fund the question would not arise. At the same time the fund was started as a " Benevolent" Fund, and not a " Provident" Fund. Its rules as regards non-subscribers are strict, and are similar to the rules of similar funds in Ceylon and elsewhere. It is the want of particulars being circulated that has caused the Wynaad Association to fall into the mistaken idea that " No regular subscriber ever benefitted," some of the cases which have been assisted have been those of regular subscribers, and the chief case now being helped is that of the family of a regular subscriber. It was, we think, the setting aside of the Rules by a General Meeting of the U. P. A. S. I. in 1918, for the benefit of the family of a non-subscriber, that has caused the mistrust which is now so apparent in regard to the fund, and we think it would be well that the " suspension" of any rule should be made impossible in future. It is improbable that the fund can ever be converted into an ordinary Provident fund, to which planters would subscribe with the chief object of benefitting themselves, and certainly no form of insurance against death, sickness, or financial distress could be worked on an annual premium of Rs. 10 per annum, but now that the fund has been in existence some ten years, planters who have not supported it requiring help either for themselves or their families should become fewer in number, and, it is to be hoped that all planters will send in their subscriptions, and at the next annual meeting revise the rules so as to make it impossible to work the fund other than to the general satisfaction of all supporters.

IN MEMORIAM.

TO THE MEMORY OF THE REV. J. H. OSMASTON, C. M. S.

"Heu senibus vitæ portio quanta manet!"

From us he pass'd
Unto the bright Throne of God;
Eternally his memory lives
So bright, so spotless and sincere.
Here, where he laboured,
Shall blossom, for ever,
Splendid flowers of his task.
Christ's true soldier—Thou
Who bravely here didst do thy part
Sleep—th' eternal mountains beckon
Until begins that life ordained
By God, ere yet the world began.

"AMICUS."

RUBBER TRADE ASSOCIATION OF LONDON,

Monthly Statistics.

December, 1919.

Movements of all kinds of Rubber, to and from the United Kingdom, as per BOARD OF TRADE RETURNS.

IMPORTS.

From	November.			11 Months ended Nov.		
	1919.	1918.	1917.	1919.	1918.	1917.
Straits Settlements and F. M. S. ...	3,404	2,284	1,461	52,876	16,576	39,365
Ceylon and British India ...	1,451	565	1,001	17,373	13,164	12,589
Dutch East Indies...	1,013	159	639	10,333	3,434	6,137
Brazil and Peru ...	404	344	1,945	8,038	4,022	10,420
Other Countries ...	155	534	802	3,216	3,871	6,913
Total Tons...	6,427	3,886	5,848	91,836	41,067	75,424

EXPORTS.

To	November.			11 Months ended Nov.		
	1919.	1918.	1917.	1919.	1918.	1917.
Russia ...	3	...	459	71	...	3,990
Belgium ...	261	...	...	3,432	...	...
France ...	784	667	1,003	9,814	9,468	11,990
Italy ...	86	142	198	4,231	2,991	2,872
United States of America ...	4,521	...	291	22,201	2,622	30,063
Other Countries ...	1,174	93	63	11,044	854	1,996
Total Tons...	6,829	902	2,014	50,793	15,935	50,911

LANDINGS, DELIVERIES and STOCKS in London and Liverpool as returned by the Warehouses and Wharves during the month of November.

	Landed. for Nov.	Delivered for Nov.	Stocks 30th November.		
			1919.	1918.	1917.
LONDON—					
Plantation ...	7,472	8,188	23,720	13,679	12,027
Other Grades ...	42	15	586	415	404
LIVERPOOL—					
Plantation ...	256†	261†	1,960†	2,500†	3,800*
Para and Peruvian ...	400	750	650	235	343
Other Grades ...	...	27	386	516	767
Totals, London and Liverpool...	8,170	9,241	27,302	17,345	17,341

† Official returns from the five recognised Public Warehouses.

* Estimated.

Movements of all kinds of Rubber, excluding Gutta, Balata and Guayule to and from the U. S. A., AS PER RETURNS OF THE UNITED STATES DEPARTMENT OF COMMERCE.

	September.			9 Months ended Sept.		
	1919.	1918.	1917.	1919.	1918.	1917.
IMPORTS ...	13,747	9,179	13,736	170,074	125,464	140,155
EXPORTS ...	224	32	236	1,465	2,624	3,213

RECEIPTS AT PARA.

	November.			July/Nov. (5 Months.)		
	1919.	1918.	1917.	1919.	1918.	1917.
Rubber ...	3,240	2,698	2,990	11,020	8,028	10,157
Caucho ...	270	452	481	2,650	1,802	3,174
Total...	3,510	3,150	3,471	13,670	9,830	13,331

A FEW HINTS ABOUT MALARIA TO NEW ARRIVALS IN THE TROPICS.

This Paper has been specially prepared for THE CROMLIX RUBBER ESTATE AND PRODUCE SYNDICATE, LTD.

Malaria is probably the commonest disease in Malaya, and that to which almost everyone falls a victim sooner or later. It is caused by a minute organism which obtains admission to the human body by the bite of an infected mosquito. Other mosquitoes are in turn infected, by taking in this organism when biting a person suffering from Malaria. Consequently the disease can be attacked from two standpoints :—

1. The destruction of mosquitoes or the avoidance of mosquito bites.
2. The prevention of a person acting as a source of infection to the mosquito.

Or, in other words, to attack the disease properly, one should deal with both the human carrier and the mosquito carrier. The group of the mosquitoes which are responsible for the spread of Malaria is that known as the ANOPHELINES, of which many different kinds exist in Malaya. As practically every kind of Anopheline mosquito in this country has been experimentally infected with Malaria, it is, in the present state of our knowledge, wiser to regard every Anopheline as a possible source of danger.

Mosquitoes are the same as what are commonly called gnats in England. It is only the female Anopheline that carries Malaria, as the male is not a blood-sucking insect, an the female Anopheline only bites between the hours of sunset and sunrise. The females of other varieties of mosquitoes bite during the day, but they are not known to be capable of transmitting Malaria.

The female mosquito lays her eggs in water, and no collection of water is too small for this purpose. Probably every species of Anopheline has its own favourite breeding places; thus, some prefer jungle streams, others marshy ground and others pools.

Speaking generally, the female Anopheline very seldom lays her eggs in tins, although they have very occasionally been found there.

The eggs hatch out into larvæ, in which state they are easily identified, and in which state they can be effectively dealt with by suitable oiling methods. The larvæ of Anopheline mosquitoes are readily distinguished from the larvæ of the other variety known as Culicines, by the fact that the former float with their bodies parallel to the surface of the water, whereas the Culicine larvæ has a forked tail, and lies with the head down, at an angle to the surface of the water. There is a marked difference in the way in which the two varieties of larvæ move in the water, the Culicine larvæ being essentially a " wriggler " ; whereas Anopheline larvæ moves in straight darts. There are, of course, very many microscopical differences. The larvæ turn into pupæ, and after a few days the fully fledged mosquito emerges from the pupal states.

The most important item of all is the mosquito net. This should be put down before sunset, after any possible lurking mosquitoes have been brushed out by the "Boy." Great care should be taken to see that the " door " of the net is properly closed and tucked in under the mattress, or, if the net is of the kind that reaches to the ground, that it really does touch the floor all the way round the bed. All holes should be repaired as soon as found: for a net with holes is more like a mosquito trap than a means to keep them off. As men in the ordinary way in this country usually go to bed between 9 and 10, the mosquito net should form an adequate means of prevention during eight to nine hours out of the twelve between sunset and sunrise. Consequently, one must assume that most of those who use nets and still get Malaria must probably get infected between the hours of 6-30 p.m. and 9-30 p.m. People

get bitten more on the ankles and legs than elsewhere, for the simple reason that the other areas of skin exposed are more readily guarded.

One generally hears a mosquito anywhere near the head or neck, and one very often sees a mosquito on the hands or wrists; but the ankles and legs, especially at dinner or when sitting at a card table or writing table, are left to look after themselves.

The four chief means of preventing mosquitoes from biting one are :

1. A mosquito-proof room, the wire netting of this should be kept in repair, and great care taken to see that the door is kept shut.

2. The use of what are known in the local shops as "Sumdges," *i.e.*, a Japanese preparation, which burns very slowly, and is very efficacious. They should always be used under a dining room table in any bungalow where mosquitoes are found.

3. Various preparations sprinkled on the clothes and skin, of which the best known here is Citronella Oil. This is by no means infallible.

4. The use of mosquito boots. Any local shoemaker will make a pair of high canvas boots for a small sum. On a very Malarial Estate these are useful; the drawback to them is that they are rather hot for this climate, but they certainly have their value. With these four methods properly employed, the risk of infection is very greatly lessened There is one question over which there is waged a constant battle, *viz.*, the taking of quinine to prevent Malaria. Both sides can bring forward arguments and experiments to prove their point, and the best course to take is to ask the advice of the doctor who will attend you should you become ill. Should daily quinine be advised, there are one or two practical points about it which should be remembered. Take it in the middle of the meal, and preferably at tiffin time, for there is evidence that the greatest concentration of quinine occurs in the blood about six hours after it has been taken. If this method is adopted the quinine must be taken regularly, according to the plan of attack adopted. There are certain seasons of the year, May, June and November, when Malarial epidemics are common, and during such seasons a daily dose of ten grains might be of use on a Malarial Estate.

If you get an attack of fever which may be Malaria, see your doctor as soon as you can. Don't try and treat yourself, or ask your friends to treat you. It is the doctor's job, and he probably has a greater experience in the matter than either you or your friends. Once your temperature has risen, take a purgative and go to bed; take no quinine, or, if you have been taking quinine to prevent Malaria, stop taking it until your doctor orders it.

Familiarity breeds contempt, and in very few cases do patients with Malaria lie up in bed as long as they ought to do. Rest is a very important part of the treatment, and complete rest in bed for a fortnight during a first attack of Malaria would do a great deal to cut down the large number of cases of relapse which occur. There are many ways of treating Malaria, but at present only one drug, and that is quinine. It may be given in small doses over a long period or large doses over a short period; whichever form of treatment your doctor advises, carry it out; you wouldn't ask your friend's advice on the treatment of Enteric, were you to get it; why do it in Malaria? Do not be afraid that Blackwater Fever is a form of quinine poisoning: it is not, and it sometimes occurs in patients who have had no quinine at all. It is well to realise that Malaria accounts for hundreds of thousands of deaths every year throughout the world, and of this number there would be found to be an infinitestimally small number of patients who succumbed during their first attack. Malaria can be prevented, in most cases it can be cured, but this can only be brought about by both the patient and the doctor doing their respective shares of the work in co-operation.

NOTES AND NEWS.

DEMOBILIZATION.

The Secretary, U. P. A. S. I., informs us that, as probationary release ends on February 29th, no application for release on probation will be received by Army Head-quarters after 31st January. The Central Employment and Labour Board, Delhi, requests, therefore, that applications for probationary release will not be submitted to reach that office later than January 26th. No new cases for permanent release will be received after the end of February.

THE RUBBER GROWERS' ASSOCIATION.

The Council of the R. G. A., have passed the following resolution, dated 3rd November, 1919, regarding rebate on subscriptions, and confirmed on 1st December :—

"That paragraph 2 of clause 3, sub-clause A, commencing "The "following "Scale" and ending "re-elected members" be deleted, and, in "lieu thereof be substituted the following :—The following scale shall "become operative on and from the 1st January, 1916, provided that Mem- "bers of the Association who were on the Register of the Association on "the 30th June, 1916, and new members elected after that date (but not "re-elected members) shall, so long as the whole of their Rubber Estates "are situated outside Malaya, and or Ceylon, and or such other areas as "received from the Association, either a monetary contribution or services "in connection with research, be entitled to a rebate of 15% off the annual "subscriptions payable under this sub-clause."

This carries out the decision recorded in the R. G. A. Bulletin No. 2, Page 34.

CEYLON TEA.

Extract from *Ceylon Chamber of Commerce* Weekly Price Current for weeks ending 15th and 22nd December, 1919, showing particulars of tea railed from Colombo to various destinations :—

Trichinopoly	575 lbs.	Cannanore	5,265 lbs.
Madras	775 ,,	Samalpatty	80 ,,
Ramnad	320 ,,	Calicut	2 900 ,,
Mangalore	920 ,,	Tellicherry	2,470 ,,
Ernakulam	750 ,,	Cochin	3,500 ,,
Trichur	1,444 ,,	Palghat	100 ,,

Total—19,099 lbs.

INDENTURED LABOUR.

Press Communiqué, Delhi, 3rd January 1920. The following telegram has been received to-day from the Secretary of State :—

Fiji. Following telegram from Governor, Fiji, received at Colonial Office :

"January 2nd. On unanimous advice of Executive Council and with concurrence of Council of planters and majority of elected members, I have issued order cancelling all indentures of East Indian labourers from this day. Please inform Government of India. Rodwell".

THE INCORPORATED SOCIETY OF PLANTERS.

This Malayan Society issues the following appeal, which is worthy of placing on record, if only for its historical value :—

The Incorporated Society of Planters, as its name implies, is a body incorporated by law, and was registered, under a License from the Chief Secretary, F. M. S., as a Society, not for profit but for promoting useful objects not involving the acquisition of gain. It is not and cannot become a trade union. A trade union is any combination for regulating the relations between workmen and masters, *or for imposing restrictive conditions on the conduct of any trade or business*. The rules of trade unions are usually in restraint of trade.

The I. S. P. does not seek to interfere with individual freedom, initiative or enterprise. Under its Constitution, it is unable to support with its funds or to endeavour to impose on or procure the observance of any regulation or restriction which, if any object of the Society, would make it a trade union. There is little doubt that, if the Society were to make any attempt to impose restrictive conditions on the conduct of its Members, its License would be revoked, and an order issued by the Court for it to be wound up.

The success of the I. S. P. is assured, and its value to the planting profession will be fully realised in the near future. The advantages of the Society to those eligible for membership cannot be too strongly urged. Every Planter who is not already a member is invited to join without delay. The personal need for the support of such an organisation invariably comes unexpectedly. It is to a man's own interest, to the interest of his fellows, and, still more important, to the interests of his profession that he should join the I. S. P., and join at once.

All particulars can be obtained on application to the Secretary, Incorporated Society of Planters, Kuala Lumpur, F. M. S.

HOLOTRICHIA LEUCOPHTHALMA, WIED.

Dr. P. Arens has written a bulletin (Mededeelingen van Het Proefstation Malang, No. 28) with reference to this white grub, an insect injurious to Hevea. The following is an English summary of his paper : —

" In the literature there is only one case known of white grubs attacking Hevea plants. Green says that, in Ceylon the grubs of *Lepidiota pinguis* killed some thousands of Hevea stumps on a clearing, by eating all the rootlets and decorticating the taproof.

" Some time ago the grubs of *Holotrichia Leucophthalma*, Wied, were found to injure the stumps on a clearing in Java in the same way.

" Owing to very wet weather, burning could not be done properly on this clearing before planting. The clearing was kept absolutely clean weeded.

" The life-cycle of Holotrichia Leucophthalma takes one year. The young grub leaves the egg after 25-29 (average 27) days. After about eight months it converts into a pupa, from which after 27-34 (average 29) days, the beetle emerges. The beetles are found flying in Java during the months October—January, these being the first months of the wet season.

" The experiments showed that the following measures can be recommended against this plague:—

" New clearings should be cleaned as far as possible from decaying organic matter, such as stumps, leaves, branches, etc., before the flying season of the beetles begins.

" If a clearing is attacked by Holotrichia, soft weeds should be allowed to grow on it, since Holotrichia will feed on these weeds, and the damage done to the Hevea plants will therefore be reduced to a minimum.

" To avoid the beetles from infecting new clearings, as many beetles as possible should be caught. During day-time, the beetles are to be found in great numbers in the soil of the older fields adjacent to the infected clearings, about 4 inches below the surface of the soil."

THE INDIAN TEA CESS COMMITTEE.

A Gazette of India notification states that Mr. H. L. Pinches and Mr. C. Simpson become members of the Indian Tea Cess Committee, *vice* Sir Fairless Barber and Mr. C. E. Wood, respectively.

THE SPANISH PRISONER AGAIN.

Mr. J. F. Fraser of Peermade sends us another letter from our old friend, one of several he has received during the past twelve years. The letter is almost word for word identical with that received by Mr. Nicolls, and is obviously in the same handwriting. Eduardo seems to have quite a lot of planting relations.

AGRICULTURE AT THE BRITISH ASSOCIATION.

In his address to Section M., Prof. Somerville pointed out that during the war the area of land in the United Kingdom under grass was reduced by more than three million acres, with a corresponding increase of the area under tillage crops. Even were this increase of cultivated land maintained, their would still remain more than 30 million acres under permanent and temporary grass, exclusive of about 16 million acres of mountain land used for grazing. Several attempts have been made to discover a relationship between the botanical composition and the feeding properties of permanent pastures, but the results have been largely negative ; neither has it been possible by chemical analysis to differentiate between grass of poor and of high quality. The only trustworthy test of quality that can be applied would appear to be through the agency of animals consuming the produce of the meadows or pasturing the fields. This work was initiated at Cockle Park in Northumberland in 1897, and has been extended to some twenty other experimental stations in various parts of the United Kingdom, and in New Zealand. It has been conclusively proved that poor grass land is susceptible of rapid and profitable improvement, especially through the agency of phosphates. In many cases the stock-carrying capacity of land has been more than doubled, while the progress of the individual animals has also been largely increased, so that the output of meat or milk from land suitably manured has often been trebled or quadrupled, with advantage to the nation and substantial profit to the farmer. One conspicuous result of experiments on manuring-for-meat has been the long-continued action of dressings of phosphate, 200 lb. per acre of phosphoric acid, in the form of basic slag, still producing very marked effects at the end of nine years. Nitrogen, potash, and lime as an addition to phosphate have been tried at several stations, but in most cases with comparatively little effect. Indirect manuring through feeding stock with cake has also given unsatisfactory results.

Research, during recent years, has been directed towards discovering how the marked improvement secured by an initial dressing of phosphate can be maintained, and it has been found that in no way can the maintenance of fertility of pasture be better secured than by means of supplementary dressings of phosphate.—NATURE, Vol. 104, No. 2602.

PENTLAND PORTRAIT FUND.

Donations received by the Secretary, U. P. A. S. I.

	Rs.	A.	P.
Amount previously acknowledged ...	...615	0	0
Mr. J. V. Shank ...	... 15	0	0
Total	...630	0	0

Cheques should be made payable to the Secretary, U. P. A. S. I., Coimbatore.

ESTATE COOLIES.

Rates of Pay Discussed.

MR. MACFADYEN'S VIEWS.

From the Malay Weekly Mail.

The position of the Tamil cooly under present conditions, and the probable effects of exchange developments upon Estate Labour supplies, have been freely discussed of late. We are privileged to print below an important contribution to that discussion, in the form of an interview with the Hon. Mr. E. Macfadyen. The latter was good enough to submit to the interrogations of our representative, which elicited the following expression of opinion.

" I have no doubt (said Mr. Macfadyen) that the minds of Managers all over the country are much exercised over the question of rates of pay for Estate coolies. And it is a question which only Managers can settle. Those in touch with the actual working of Labour from day to day can alone judge of the changes in rates which become necessary as circumstances alter."

" That rather suggests that you anticipate some general change in the near future. But, might not a change be avoided altogether if the dollar were to be raised ?"

" I do not believe that it would materially cheapen the cooly's cost of living to raise the dollar. But it seems to me quite an academic point, because I am quite certain the dollar will not be raised."

" That is interesting. But may not exchange adjust itself through a fall in silver ?"

" I think the prospect of that is a distant one. The fluctuations in the value of silver, in terms of gold, have not in the past been over short periods. Very likely the curve may be at its highest point, or near there now, but it is likely to sink slowly. During the nineteen-twenties, I do not expect to see the Mexican dollar at two shillings, or the rupee at 1s. 4*d*."

" Then you consider that remitters to China and India must expect to be hit for many years ?"

" I think that remittances will be at much higher rates during the next decade than during the last. But I believe the importance of this to our Labour position is often exaggerated. For instance, people speak as though the whole of the wages we pay to Tamil coolies were remitted to Madras. But many coolies remit none of their pay, and none of them remit the major part of it.

" Coolies will remit the proceeds of a ' siet ', perhaps, on the average about once a year. And when they return to the Coast for a visit, or for good, they carry with them a good round sum. Exceptional coolies pinch themselves to save, but the majority go in for a much higher standard of living here than in India, and spend fairly freely. If you were to assume that 15 per cent. of all the wages drawn here find their way to India, I believe you would be making a liberal estimate."

" Then do you consider that a 15 per cent. rise in wages would compensate for a 100 per cent. rise in exchange ?"

" There are cases in which employers are remitting at a fictitious rate, to compensate for the rise in exchange. And, in other ways the cooly is being given ' tolong'. In some districts, for instance, it is general just now to retail rice at a loss to the Estate of from 30 to 50 cents a gantang. And this is after the Government has already lost 20 cents or more in supplying the Estate. And, for a much longer period, there has been another process at work which has greatly increased the real wages of Estate Labour. More and more Estates have gradually come to be all or nearly all in bearing. Now-

a-days a Labour force may be 90 per cent. tappers. But tapping tends more and more to be paid by results ; a change which is much to the advantage of the industry, in my opinion, and one which has considerably raised the average earnings. Then, as a rule, when this happens, non-tappers are compensated by overtime. So that the old nominal 'district rate of pay' is frequently now an illusory figure."

"So your view is that wages have already been raised ?"

"I believe the real earnings of Labour on Estates have risen very much, without any nominal variation in the rate of wages. Managers feared that once a rate was raised it could never be lowered again, and devised methods by which adjustment would automatically take place when conditions reverted to the normal.

"The real change in the situation, to my mind, is, that it has now become clear there will be no reversion. We must expect dear rice and a high exchange for years. If Estates are treating their Labour handsomely, would it not be more business—like to take the credit for doing so ? There is an era of great prosperity before rubber, in which the cooly is entitled to share. Would it not for instance be wise, at this stage of things, to abolish the rice allowance and incorporate the value of it into a new standard rate —and add such a sum as may be necessary to compensate for exchange and increased cost of living in other respects ? That is the question, I think, which is demanding an answer at the moment ; and, should the answer be 'yes', the further question of how much, in the different circumstances of different districts, will be a sufficient increase to make it evident to Ramasamy that he is not being treated worse than before ?"

"And how do you consider the Chinese are affected ?"

"The Chinese know to look after themselves, and do not require consideration in the same way as, if the Tamil is paid too little we may be a long time finding it out, and then only as the result of bolting, and through a falling off in the stream of recruiting from India. The Chinese, when circumstances justify it, demand a rise—and get one. Assisted by the shortage of Chinese due to shipping and other restrictions during the last 5 years, they have demanded a rise of over 50 per cent., and have got it."

MARKET REPORTS.

Since our last report a fortnight back, the mail has brought us the news that all existing restrictions upon the export of coffee from the United Kingdom were removed on November 26th, 1919. A later announcement made it clear that all coffee, whether imported before or after the above date, might now be exported. Commenting on this long-expected announcement, the PRODUCE MARKET REVIEW says.—

The effect on the market was naturally a little unsettling, as hitherto two prices have existed, the one for the free and the other for the home trade portions of a parcel. Sellers were inclined to hold out for the higher export value, whilst buyers felt that an average between the two rates would be more fair, as the export trade was dull. There appears to be little doubt that lots hitherto reserved for home trade will appreciate in value, and an average will be established.

The removal of restrictions opens up brighter prospects for next year's trade generally, as there were indications of much smaller shipments to this country, owing to the disinclination on the part of the merchants to sell 30 per cent. of their coffee at 10s or more below the price obtained for the balance. Consequently, it was feared that a great deal of the trade would go to New York, or by direct shipment to the Continent.

The same authority, a week later, says:—

The market is dull; buyers' and sellers' ideas of values are, in many instances, so far apart that little business has been done. It is difficult to weigh the various factors affecting the position. Large quantities of coffee have been bought for export account, but only a small proportion has been shipped, partly owing to shortage of tonnage, and partly owing to the fact that Continental speculators have been disappointed in their expectations of large orders from Germany. This stock is being held confidently, in view of the fact that the London market is the lowest in the world, and, as it is believed that American requirements are now so much increased that only small shipments will be made to Europe in the New Year, and at much higher prices than those at present ruling. It must be remembered, however, that the cost of holding coffee, in rent and interest, is heavy, and there is deterioration and loss of weight to be considered. The present is always a dull period in this market, and it is hardly likely that the position will become much more clearly defined until the New Year.

The removal of the restrictions does not seem to have had much effect on a dull market. The continued adverse exchange position is of course responsible for this. Messrs T. H. Allan & Co., reporting on December 10th, say:—

"Yesterday the franc touched 45 40. The Home trade is also holding "off, but that is usual at this season. No forward business is reported. "People talk of 130/- f. o. b. as a possible basis, but buyers see little margin "for profit at this price, and prefer to take their chance when the coffee "arrives. The statistical position is good, visible supplies showing a con- "siderable reduction at a season when an increase is always looked for".

The London coffee returns for the week ended November 29th were as follow:—

	Home Consumption		Export.		Stock.	
	1919	1918	1919	1918	1919	1918
For week ended Nov. 29 ...	Tons	Tons	Tons	Tons	Tons	Tons
	289	315	253	16	21 207	20,579
For 48 weeks ended Nov. 29	16,813	23,299	18,278	5,361	...	...

We are indebted to Messrs. T. H. Allan & Co., for the following monthly statistics to 30th November, 1919:—

	1919.	1918.	1917.
	Tons.	Tons.	Tons.
East India—			
Landed ...	5,291	54	3,209
Delivered ...	4.092	1,461	2,106
Stock ...	1,293	204	2,870
All Africa—			
Landed ...	3,666	2,056	1,047
Delivered ...	3,023	2,018	1,185
Stock ...	1,192	578	549
Coffee of all kinds—			
Stock in U. K. on 30th Nov.	21,705	21,080	41,820
Total European Imports to 30th November ...	438,485	53,290	175,540
Total European Deliveries to 30th November ...	343,165	170,055	233,705
Total European Stock on 30th November ...	125,470	41,940	167,295
World's Visible Supply on 30th November (*a*) ...	573,295	644,940	641,350

(*a*) including the Sao Paulo Government stock.

Locally, we note from the Mangalore circulars that some buyers continued to ignore the market altogether, but new buyers are coming in and a small business is going on. In their circular, dated 10th January, Messrs. Volkart Brothers say that, on the whole, business is steady with improvement in futures. Our weekly cable is not to hand at time of writing, but will probably be here in time for inclusion in the space we have allotted for it on our opening page.

Tea.

The better grades continue to meet with good competition. Ceylon teas were slightly dearer in the lower grades, Broken Pekoe selling at a minimum of 1*s*. 7½*d*., except for a few lots. In mail week, however, prices were easier for lower grades, and a good deal was withdrawn. The market may be classed as steady, with recent prices maintained for quality teas. Common grades sold from 1*s*. 2*d*. to 1*s*. 3*d*.

The Indian Tea Association publishes the following statistics of exports of Indian tea from Calcutta, Chittagong and South Indian ports :—

		1919.	1918.	1917.
		lbs.	lbs.	lbs.
Sailings to Great Britain from Calcutta in Nov. 1919 Black	41,252,624	41,252,624	10,232,582	20,254,279
Green	*Nil.*			
Sailings to Great Britain from Chittagong in Nov. 1919 Black	15,594,462	15,594,462	3,501,413	4,974,273
Green	*Nil.*			
Sailings to Great Britain from 1st April to 30th Nov. 1919 (including Chittagong.)	...	212,254,370	193,884,625	123,870,085
Sailings to Australia and New Zealand in Nov. 1919 ...	...	*Nil.*	2,407,050	833,223
Sailings to Australia and New Zealand from 1st April to 30th Nov. 1919 ...	...	6,98,886	6,072,061	5,374,833
Sailings to North America in Nov. Black	2,831,966	2,831,966	142,043	2,318,465
Green	*Nil.*			
Sailings to North America from 1st April to 30th Nov. 1919	...	7,720,140	1,979,365	29,521,752
Sailings to other places in Nov. 1919 Black	1,960,620	1,960,620	1,805,656	3,416,423
Green	*Nil.*			
Sailings to other places from 1st April to 30th Nov. 1919 ...	...	7,438,065	11,258,972	20,837,192

The following are the shipments from Southern Indian Ports during the month of November, 1919, *viz* :—

Cochin—

To London ...	1,596,895
Marseilles ...	3,800
Asiatic Ports ...	183,597

Includes 88,480 lbs. from Chittagong.

			lbs.		
			1,784,292		
Tuticorin (direct)—					
To London	..	1,123,821			
Colombo	...	99,371			
			lbs.		
			1,223,192		
Alleppey —					
		lbs.	lbs.		
To London	...	14,865	14,865		
Calicut—					
To London	...	1,576,833			
Colombo	...	13,592			
Bombay	...	10,494			
			1,600,919 lbs.		
			4,623,268	4,962,062	2,560,335
Do do from 1st April to 30th November 1919		...	19,064,831	25,711,469	14,820,315
Total Sailings from 1st April to 30th November 1919		...	247,176,292	238,876,492	194,424,177

The amount exported from Ceylon (total exports) from 1st January to 22nd December, 1919 was 195,179,816 lbs Black and 2,599,628 lbs Green.

Rubber.

There is not much object in quoting month old prices for rubber, since this commodity is included in the daily quotations appearing in the Madras papers. The great feature of this market, of course, has been the steadiness of prices for Fine Hard and the gradual advance of Plantation, so that whereas a month ago both were at about 2s. 7d., the latter is now quoted at 2s. 10½d., a premium of 3d. over the present Fine Hard prices. The reason for this is obscure. Messrs. Leslie & Anderson, writing on December 11th, say the latest news received reported a quiet market in New York, a fair business being done in c. i. f. New York at about 2s.6¾d. The market has undoubtedly been assisted by the continued depression of the New York Exchange, and the reported settlement of the New York strike was expected to have a favourable effect on prices in London.

Fairly large quantities were available for the spot market in mail week, but these were being rapidly moved off and there was no accumulation. Imports for the week ending December 11th were exceeded by deliveries to the extent of 1,000 tons, a healthy sign.

Minor Produce.

PEPPER sold slowly, but without quotable charge, the demand being principally for white, which continues good for consumption, but there has not been much market business. Prices, however, remain steady. Black pepper has been quiet in the absence of continental demand, and quotations are unaltered, but there is a lack of strength.

CARDAMOMS.—Our information is that there is some enquiry for "bleached", but greens are still neglected. Locally this products has shown more life, and Messrs. Volkart Brothers report sales at Rs. 37-8-0 for bleached, per maund.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE of "A" Coffee.

(BY CABLE.)

LONDON, 16TH JANUARY, 1920.

163s/- *per cwt. Market firm.*

THE FARMER AND THE EXPERT.

The recent opportunity which I have had, for the first time in fifteen years in Southern India, of seeing the actual conditions under which planting is carried out have made me realise, very strongly, the gulf which exists and perhaps must always exist between the actual farmer, who is making his living out of the soil, and the Expert, whose salary does not depend, directly at any rate, on the success or otherwise of the advice he professes to give. There is a story told of the late W. G. Grace, who one day came

across a party of urchins disputing a point in a game which, with its sugar box for wicket and rudimentary bat, was the best effort they could put up at cricket. "W. G." interfered to decide the point, but was warned off with the remark—"Garn! Wot do *you* know abaht the game?" The story raises a smile, because the fact that W. G. Grace *did* know *all* about the game is so indisputable. It would, I think, lose its point, if the characters were changed to two Rubber Planters discussing, say, a modification of some system of tapping, and a Scientific Officer intervening to advise them. And the reason is not so far to seek. No Scientific Officer or Expert, or whatever you call him, would ever venture to claim the position that he knew *all* about planting: at most he claims that he has a considerable knowledge of some particular branch of it.

I venture to think, that this is a point which is not realised sufficiently by the planter. In the first flush of enthusiasm in obtaining the services of what are usually referred to as "one of these scientific beggars," planters are apt to think that they have obtained a means of dealing with every difficulty they have to face, and, that these are many and frequently disheartening. I have realised thoroughly from my recent tour. When they find that the Scientific Officer cannot give them a direct answer to every question put to him, they tend to fly to the other extreme, and dismiss the possibility of his being any use, with the reflection, comforting but possibly not complete, "why, he doesn't know as much about it as I do". Of course he doesn't. Nor does the planter himself know as much about the actual process of tapping as any of his coolies, nor could he pluck tea as fast as the slowest of his plucking gang. There are whole fields of knowledge, often purely local in their application, or dealing with organisation and accounts, the business side of planting in short, in which the practical working man must always be far ahead of the visiting adviser. We do not deny it, but we can in fairness claim that there are as wide, if not wider fields of knowledge in which our superiority is as marked. Consider for a moment what the training of a scientific agriculturist has been. He has learnt, for instance, not so much of the facts, as the principles of plant growth and plant nutrition, and consequently, when faced with a set of new conditions, he is in a position to construct a theory and get that theory tested. He needs, and must have, the assistance of the man on the spot for the facts on which his theories are based, in other words, the co-operation of the planter and his scientific officer is essential, and that this is realised I have had ample evidence, but not to the extent which it should be. The real meaning of the word Scientific is often forgotten: it means, "wrought *with knowledge*." A line of action is decided on, not from inspiration, not from convenience, not from economy, but from *knowledge* of the facts and the logical conclusions therefrom. Let me cite an example of what I mean. There are diseases of rubber which are at present serious, one is Leaf-fall and the other is Brown Bast. About the first, we *know*: we know its causes, we know how and where that cause lives, and we have clearly shown that, by the removal of the portions of the tree where the cause lives, what was theoretically anticipated, namely that the disease would be successfully combated, does actually occur. It is true that the practical application of this remedy is yet to be found, and here the earnest co-operation of all concerned is needed. In some places, labour may be sufficiently plentiful to allow of this remedy being adopted: in others this may be impossible, and the remedy must be found in other ways, by modifiying the methods of planting or by a change in the system of manuring. The other disease, *Brown Bast*, has, up to the present, completely baffled us, and we cannot recommend any scientific treatment. All that can be said

is that " so and so is doing this, and it doesn't seem to do any harm". It is an unsatisfactory position which needs remedying, and *nothing but more knowledge will do it.* Such knowledge will be gained both in the laboratory and the field, and for this latter the planter must be largely responsible.

I trust I have made clear what I consider to be the position of the outside trained adviser. I know the feeling still exists that the scientific department has been an expensive luxury, but I cannot bring myself to believe that such a department is not a necessity where, from the circumstances of the case, an ignorance of the sciences underlying agriculture is more likely to be the rule than the exception. I have heard from men who enjoyed, and rightly so far as I could judge, the reputation of being good planters, and who certainly were successful ones, opinions expressed about the use and functions of the leaves, stem and roots of plants which would have disgraced a book-maker.

I still remember the smell with which we were greeted when yet far from an estate, and which we discovered to emanate from some bags of a mixed manure, containing fish as an ingredient,which had been lying out in the south-west monsoon for some months. As this manure, the fish portion of which came of course from the West Coast, had come from a manure firm on the East Coast by rail all the way back to Travancore, it is not surprising that the estimate of the loss, which the scientific officers were able to make on the spot, ran into big figures, big enough indeed to have put up quite a respectable shed.

These statements may be unpalatable, but they are true, and in planting, as in everything else, knowledge is power, and, if the Planting Community have not that knowledge they must pay some one else to put this knowledge at their disposal. I trust I will not be mistaken, and be thought to mean that planters should themselves acquire a knowledge of science: I should not presume to do so, though I may have my own opinions on the point. All I wish to emphasise is that, if they have not this knowledge, they must obtain it from some one else. One word more, and here I feel on much less secure ground for I am merely drawing on my own impressions. I was astonished at the low rates at which it was possible to secure labour, as compared with what obtain in the District with which I am most familiar, namely Coimbatore. To-day, round the College estate, female coolies are getting paid two Madras Measures of paddy a day, worth rather over five annas. It is always a wrench to raise rates, but it looks as if it would have to come all round, and the only remedy is to make your labourers more efficient, by providing better conditions in which they can live and work, or by giving them more efficient machinery to perform their allotted tasks.

I hope I have not trespassed too long on the hospitality of your columns. One cannot but admire the determination with which a planter attacks what, to an arable farmer like myself, seems an impenetrable jungle and transforms it in a few years into an ordered tea or rubber estate, and the cheerfulness with which he bides his time, till his trees come into bearing, and he reaps his harvest. Certainly I cannot. I owe many planters my thanks for their hospitality, and, if I can make any return for their kindness, it is by impressing on them to the best power of my pen the importance of knowledge in the many problems which continually beset them.

(Signed) R. CECIL WOOD.

3—1—20.

SCIENTIFIC DEPARTMENT, U. P. A. S. I,

Report of the Deputy Director of Agriculture for November, 1919.

2. I returned from a tour of the West Coast with the Director of Agriculture and the Government Agricultural Chemist on 2nd, and left again on the evening of 13th to make a short tour in Coorg, returning again to head-quarters on 24th. I left again on the evening of 26th for Pusa, to attend the meeting of the Board of Agriculture. I was thus absent from head-quarters for 16 days during the month.

3. In Coorg, I visited the Coffee Experiment Station, and then proceeded to Mercara, from which centre I paid visits of inspection to Sumpage Rubber Estate and to Malishwar. I next proceeded to Polibetta, and from there visited Faith Estate.

4. At Malishwar is situated the Coffee Estate being opened by Mr. A. H. Jackson with the new hybrid coffee, an account of which was given in the *Planters' Chronicle*, Vol. XIV, page 597. This coffee is now two years old, and it is bearing a maiden crop which is probably as much as 7 cwts. per acre, and it is a magnificent sight. The growth of new wood, despite this heavy crop, is remarkably good, and there is every prospect, given good blossom showers, of a very heavy crop next year. Preparations are being made to open another 50 acres this year. The seed is now on the market to be obtained from this crop, and it is advertised in the *Planters' Chronicle* at Rs. 300 per bushel, and I understand that a number of orders have been booked, so that this hybrid will soon get a trial in various coffee districts, and its worth be ascertained as a practical proposition.

5. The Coffee Experiment Station.—The Station was visited on 16th—18th November, and a preliminary cropping scheme decided upon the plots marked out roughly. These are now to be surveyed and demarcated, and this will be done as soon as the present crop is picked. Picking has been begun. This year the whole crop will be picked in bulk, as no experimental work has been begun. The only exception to this is one small plot of 100 trees from which the crop will be picked separately from individual trees, with the idea of keeping from year to year a profit and loss account of individual trees on an average area, to throw light on problems of collar pruning and renovation of old coffee.

The buildings have now been completed and occupied, a well is about to be sunk, nurseries are being prepared and everything is in train for actually starting experimental work at the beginning of the new year.

During the month under review, the Farm Manager reports heavy rain at the beginning with one fall of 3 inches in a day, followed by bright cold weather with heavy dews. The effect of this is to cause the crop to ripe up rapidly. The total rainfall for the month was 5½ inches, distributed over 10 days.

A second hand-weeding was completed and cultivation ("kooking") round supplies was also completed.

Picking was begun on 17th, and about 17 imperial bushels of ripe cherry were collected during the month.

6. THE TEA EXPERIMENT STATION.—The Farm Manager reports that during the month the weather was bright and sunny, but a certain amount of mist and rain was experienced. The rainfall for the month was 11·46 inches, distributed over 23 days. Yield of leaf was good, and the portion pruned last September is ready for tapping. 2,840 lbs. of green leaf were packed from the Manipuri bushes on the Station, and 120 lbs. from the China. This is equivalent to 740 lbs. of made tea. Cost of picking was Rs. 52-4-9, and cost of manufacture Rs. 5 8-9, a total of Rs. 58-4-9, or 1 anna 3 pies per lb. of made tea.

A portion of the Station was weeded during the month, work has begun on the well and the fence for the Farm Manager's compound, and the construction of the cooly lines is proceeding.

7. THE RUBBER EXPERIMENT STATION, MOOPLY.—The Farm Manager reports that the rainfall during the month was 9 inches, nearly all distributed over the first half. The drains have all been cleared and deepened where necessary, and the Station has been weeded. Sanitation and disease work is being continued, and 8 cases of Pink Disease and 7 cases of Canker are reported.

8. THE RUBBER EXPERIMENT STATION, TENMALAI.—The Farm Manager reports a rainfall of 10·41 inches. The total rainfall to date is 120·89 inches, which is much above the average. On the estate where he is undergoing training, the tapping average per cooly during the month was 2·97 lbs. of dry rubber, and the average yield per acre to the end of November 188·82 lbs. per acre.

The Farm Manager was given permission to visit the Mooply Rubber Experiment Station as part of his training, and while there visited a number of estates to see the work being done and the methods employed. He also visited and studied the experimental work being done at Pudukad and elsewhere with green dressings, intercrops, wide spacing, etc.

9. During the month, the following articles, comprising 19 pages, have been contributed to and published in the *Planters' Chronicle*:—

(1). Account of West Coast Tour. (Continued).
  (*a*). Green dressings and intercrops for rubber.
  (*b*). Mouldy Rubber.
(2). Prickly Pear.
(3). Board of Agriculture. Note on subjects II & VII

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

DISTRICT PLANTERS' ASSOCIATIONS.

Shevaroy Planters' Association.

Minutes of the Annual General Meeting, held at the Victoria Rooms, on Thursday, January 15th, 1920.

PRESENT.—Messrs. S. M. Hight, E. Sans, C. D. Ryle, S. Campbell, W. Rahm, C. Rahm, W. J. A. Lechler, H. S. Dyer, Mrs. Cayley, Mrs. F. D. Short, Mrs. C. G. Lechler and A. H. Whittle, Honorary Secretary and Chairman. *By Proxy*—Messrs. N. M. and C. L. Hight. *Visitors.*—The Lord Bishop of Madras, and the Rev. J. McPherson.

1. Notice calling the meeting was read.

2. The Chairman proposed that Messrs. C. D. Ryle and C. Rahm be appointed auditors. Carried.

3. The accounts were audited and passed as correct.

4. The Chairman proposed that Mr. W. J. A. Lechler be elected a Member of the Shevaroy Planters' Association. Carried.

5. Proposed by Mr. C. D. Ryle and seconded by Mr. C. Rahm that Mr. A. H. Whittle be elected Honorary Secretary. Carried.

6. Proposed by Mr. S. M. Hight and seconded by Mr. C. D. Ryle that Mr. W. J. A. Lechler be elected Vice Honorary Secretary. Carried.

7. The Chairman proposed that, apart from the Honorary Secretary, Mr. A. H. Whittle, the Vice Honorary Mr. W. J. A. Lechler, and the District Board member, Mr. H. S. Dickins, who according to Rule 10 of the S. P. A. are ex-officio Members of the General Committee, the following five Members be elected to serve on the General Committee for the ensuing year, viz., Messrs. S. M. Hight, C. Rahm, C. D. Ryle, The Rev. Father Capelle, and Mr. W. Rahm. Carried.

8. Proposed by Mr. C. D. Ryle and seconded by Mr. Rahm that the Honorary Secretary be authorised to appoint a clerk to assist Members with Breach of Contract cases against defaulting maistries and labourers, to draw up and get attested the necessary labour agreements, and also to act as Agent in Salem for supply of carts and material, etc., required by Members of the S. P. A.

9. Proposed by Mr. W. J. A. Lechler and seconded by Mr. W. Rahm that the subscription to the S. P. A. for the first quarter of 1920, viz., January to March 31st, be fixed at Rs. 10. Carried.

10. CORRESPONDENCE.—Read Honorary Secretary's letter to the President, District Board, dated 9—1—20 *re.* Medical Officer's Quarters and Dispensary at Nagalur, also the President's reply thereto.

11. The Honorary Secretary gave a short summary of the work done by the S. P. A. during the past year. The brevity of the report was heartily approved of.

12. This ended the business of the meeting.

The Lord Bishop of Madras then gave a short address on social, political and economic problems confronting the planting community, which was very much appreciated. The Honorary Secretary then thanked His Lordship on behalf of the S. P. A. for the honour done them by his presence at the meeting.

An informal discussion then followed upon matters principally affecting the conditions under which labourers worked in Coffee Estates, and a considerable amount of information was obtained from His Lordship's remarks, especially in regard to food problems and co-operation in villages.

The Meeting then closed with a vote of thanks to the Chair.

(Signed) A. HENRY WHITTLE,
Honorary Secretary and Chairman.

Yercaud, 16-1-1920.

THE MADRAS AGRICULTURAL DEPARTMENT AND THE MYSORE GOVERNMENT.

The following correspondence has taken place relative to the contribution payable by the Mysore Durbar towards the cost of the Scientific Department for the assistance of planting industries.

* * * *

Letter No. 5775/A & E 29-19-7 of the 3rd January, 1920, to the Secretary to Government, Departments of Education and Agriculture, Bangalore.

With reference to correspondence ending with your letter No. 92, dated 25th September, 1919, I am directed to forward herewith copy of Madras G. O. No. Mis. 2240, dated 5th December, 1919 on the subject of the contribution payable by the Mysore Durbar towards the cost of the Scientific Department for the assistance of the planting industries of Southern India, and to request you to be so good as to arrange to have the order communicated to the planters, both European and Indian, in the State.

ENCLOSURES REFERRED TO ABOVE.

Letter No. 2241, dated the 5th December, 1919, from the Secretary to the Government of Madras Revenue (Special) Department to the Hon'ble the Resident in Mysore, Bangalore.

In acknowledging your letter No. 9477, dated the 27th November, 1919, I am directed to request you to convey the thanks of H. E. in Council to the Mysore Durbar for the contribution, which they have consented to continue for a period of five years from 1st April, 1919, towards the cost of the Scientific Department for the assistance of the planting industries of Southern India.

A copy of the orders issued by this Govt. with reference to the concluding portion of the Durbar's letter No. Pol. 545, dated the 20th November, 1919, is enclosed.

Planting Industries. Abstract.

Recording correspondence on the subject of the contribution payable by the Mysore Durbar towards the cost of the Scientific Department for the assistance of the Southern India.

(Revenue 'Special' Department),
Dated 5th December, 1919.

G. O. No. Mis. 2240.

Read again the following papers:—

G. O. No.	415	Revenue (Special)	dated	7- 3-1919.
Do.	516	do.	do.	22- 3-1919.
Do.	1172	do.	do.	13- 6-1919.
Do.	2235	do.	do.	4-12-1919.

Read also:—

From the Resident in Mysore, No. 5020, dated Bangalore, 26-6-1919.
To the do. No. 923-11/19-1, dated 11-7-1919.
From the do. No. 9477, dated Bangalore, 27-11-1919.
Order, No.
Recorded.

2. The Director of Agriculture is requested to arrange that all reasonable assistance is given to the Mysore Planters, both European and Indian, in conducting special investigations relating to tea, coffee and rubber, and to communicate to the Director of Agriculture, Mysore, the results of all important investigations and experiments carried out by the Scientific Officer and Mycologist. Application for information from the Mysore Planters should receive due attention.

(Signed) L. D. SWAMIKANNU, Tempy. Addl. Secy. to Govt.

* * * *

THE FIRST AND ONLY RUBBER FACTORY.

If there be any trade, resembling the same industry in the West, or rather in other countries, with respect to material only, it lies in the manufacture of rubber articles.

The material indeed is the same, but here all comparison practically ends. The treatment of it is so entirely different, as a result of climate and other circumstances, that a simple imitation cannot suffice, any more than can experiments on a small scale, because results are no standard for judging wholesale manufacture; in short, articles manufactured out of rubber for daily use have become an industry that has had to be entirely recognised, thereby entailing very heavy expense, until the right methods were discovered, the right amalgamations prepared, and the workmen became competent to produce something useful. The Bandoeng rubber factory has at last passed through the "measles and chicken-pox" period, and, though the dividends have been small, nevertheless prospects are brighter since experiments on a large scale have come to a satisfactory termination.

It is evident, however, that its prosperity largely depends upon the special knowledge acquired during the experimental stage. Many trade secrets have come into existence during that time, secrets which competition in its turn will have to discover in the same difficult and costly manner, in order to attain similar results. It has sometimes been said that the unfavourable results first obtained by the factory were because the head of the establishment was a chemist instead of a business man; that opinion, however, is too absurd to waste any words upon. As long as the product needs improvement, the management should be in the hands of a chemist. When the experiments are ended, and everything runs smoothly, then, and not before, should the sale of the article be taken into consideration.

The establishment of this factory, which is the first of its kind in India, is due largely to the support given by Meerens Bros., who run a similar concern, and who placed skilled workmen at the disposal of the young Indian factory. These people, by their wide experience in this direction, have done much to improve the class of work done here.

In the board room is a catalogue of all the articles that can at present be made in the factory. The following are a few of the most important:—outer and inner tyres for automobiles and bicycles, solid tyres for trucks and carts, pinion belts, balls, valves, soles, heels, pedals for bicycles, horns, foot-boards, sanitary articles, tubes, air-cushions, ice-bags, air-beds, ball syringes, gas masks, all sorts of things for isolating electric currents, edges for billiard tables, garden-hoses, etc.

A large part of the factory is set apart for the impregnating of clothing materials. Thousands of yards of gray green uniform cloth are being impregnated, to be used as material for knapsacks, tents, etc.

During the war the lack of good canvas, one of the chief materials needed for their manufacture, was a great drawback. Rubber of course always was and still is close at hand; therefore all that could be made out of rubber, without the addition of canvas, could at all times be supplied, even during the war. Among these articles were bicycle tyres, which form an important part; the same may be said of solid tyres for trucks which are sold to the Government.

The plantation rubber generally arrives at the factory in the shape of crepe, or sheets. This material is first thoroughly re-dried in a vacuum desiccator, then mixed with sulphur and—but this is the manufacturer's

secret. About a hundred different amalgamations have been determined after lengthy experiments in relation chiefly to the durability of the article in the tropical climate of Java. These amalgamations differ widely from those in the Straits; perhaps even a Sourabaya factory would want quite different amalgamations.

The adding of the secret mixtures to the rubber is done by passing both between a set of rollers that can be fixed at different widths. Once sufficiently mixed, the result is rolled out into one thin sheet, and is then passed on to the tables, on which the sheets are made into the desired shape. Then a beginning is made to vulcanize, which takes place in two different ways, either by heating only or by a combination of heat and pressure, according to the kind of product used. The length of this proceeding is of course a secret, as also the degree of temperature and pressure.

Not only are crepe and sheets used, but also the so-called Para rubber (Para balls), though not in large quantities. This rubber demands a more difficult and careful cleansing, and is, therefore, less useful. Of the Ceara rubber, only very little is supplied. Though this is an excellent rubber, the culture has proved too costly to pay. Ficus rubber is useful too, but scarce. The so-called pyjama sheets are much used.

After the board room comes the vacuum desiccator, where the rubber upon arrival from the plantations is thoroughly re-dried. In the next room, again, are the large earthen vessels containing the secret mixtures; and further on is the scrap room, where nothing is wasted, all that remains on the tables after manipulation being used again. Then come the mixing rollers, that thoroughly mix the rubber with sulphur and other chemicals and then roll it out into a thin sheet of suitable working material. These sheets are then passed on to the tables, where different shapes are made out of the stuff either by pressing or turning, the elasticity of the material as yet allowing any change in the shape. Here different valves are made,—knuckle-bone balls, tips for chair-legs,—all solid articles generally. The room beyond is the department for making tubes, these consisting of several layers of different kinds of rubber and canvas alternately. It is difficult to explain the exact way in which this is done, suffice it to say that the vulcanizing boilers can hold pieces of varying lengths, namely 4 yards, 9 yards, and 30 yards. These are the hard tubes for fire-hoses, garden-hoses, etc.

Tubes consisting of rubber only are made in a different way, namely, with spouts where the amalgamation is forcibly squeezed through a ring-shaped aperture, and thus takes on the desired width and thickness. Such tubes are coiled up in powder on flat plates, so as not to stick together, and in such a way that hundreds of yards can be vulcanized at one time. The same is done with edgings for pool billiard tables and cart tyres, these being in daily requisition. Again, there are tubes that are made out of canvas and rubber, in which case it is necessary to impregnate the canvas and then wrap it in various layers, protecting the outside with wet cloth before vulcanizing, the impression of which nearly always shows on the tube after the process.

Next to this is the department where solid tyres for trucks are manufactured. These are vulcanized under high pressure and immediately fixed to the loose rims. There is a special department for the manufacture of truncheons, for which there seems to be a great demand now-a-days. These are made out of layers of impregnated canvas and rubber wound tightly about each other. In the department set apart for the manufacture of ebonite articles are also the basins for accumulators, of gas masks for sugar factories

and li ne-kilns, and which consist of ebonite boxes for holding the protecting chemicals, with a set of tubes attached that reach to the nostrils. Here also accessories for wireless are made, the process being of course a secret.

The factory also supplies large quantities of pinion belts, that are very much sought after. These consist of impregnated canvas of different widths, which, after impregnation, are again stitched through and through on gigantic Singer-sewing machines. Afterwards the whole is vulcanized, the factory being able to make closed belts without a final jointure.

A special apartment is reserved for the impregnation of large pieces of cloth, such as the military gray green linen. This is stretched in double width, run over cylinders, and mechanically passed through a specially prepared mixture, a scraping knife ensuring an equal distribution. Waterproof cloth for macintoshes can also be manufactured in this room. In the next department, again, rubber ink cylinders for printing presses are made.

Up till now the factory has passed through a period of evolution, marked by the usual difficulties attached to any chemical industry of this kind, and in a climate, too, that requires entirely new methods of treatment before its success can be firmly established.

The Singapore rubber factory, which is only just now out of the wood, has worked for eight years without yielding any dividends. Fortunately the Bandoeng factory will not have to wait so long as that. The experimental stages having been successfully passed, plans are now being made for enlarging the factory to nine times its present capacity, which means an increase of capital from *f* 450,000 to 2/½ millions. There is plenty of room here, as a large extent of land has been reserved for this purpose.

(*The Dutch East Indian Archipelago.*)

COMMUNICATIONS OF THE EXPERIMENTAL STATION, MALANG.

Influence of Different Manners of preparing on "Shortness" of Sheet-rubber.

(Summary)

BY

J. C. HARTJENS, CHEM. ENGR.

"Shortness" is a quality sometimes appearing in sheet rubber, and reveals itself in the easy way in which small pieces of rubber can be drawn off from sheets, (especially at the edges).

As a rule shortness occurs in sheet-rubber originating from young plots of Hevea which have only recently been brought into tapping. As they grow older these plots give a product, which, after some months, does not show shortness any more.

By English as well as Dutch workers it has been observed, that shortness does not affect the properties of rubber after vulcanisation, viz. the tensile strength. Even, it has been observed, that after keeping sheet-rubber, which shows to be "short," for some days in an ice-box, no shortness can be ascertained in the frozen product!

These facts tend to accept the supposition that shortness must be regarded as a superficial defect, probably caused by a more loose aggregation of the rubber particles; as it were a more physical defect, easily appearing in a material like rubber, with its colloidal nature.

The experiments described in this paper took place with a view to ascertain if, by varying different manners of preparation, rubber, showing little or no shortness could be made from a latex which gives a distinct short rubber, when prepared in the ordinary way.

Experiments were carried out in treating the latex on the estate, where shortness appeared, in undiluted and diluted state (15%) with the ordinary dose of acetic acid, with an excess of acetic acid, in adding different amounts of bisulphite and formaline, proteins, etc.

Table I shows the results of some of these experiments; as a measure for the degree of shortness the viscosity of the rubber was used, while we also experimented with an apparatus, constructed by us, in order to get relative figures for the tensile strength of the unvulcanised rubber, the so-called handpull test being too subjective.

Table II shows another series of experiments carried out $3\frac{1}{2}$ months after the first series. We did not use the small apparatus now in determining the amount of shortness, as this apparatus did not give reliable results, but got the real figures for the tensile strength in the unvulcanised samples after testing with the Schopper-machine in the laboratory of the Central Rubber Station.

Table III gives the results of the testing of the inner qualities of some samples out of table II after vulcanisation. Samples VI and VIII, which showed decided shortness in the unvulcanised state, show a normal tensile strength after vulcanisation.

Resume Of Results.

Determinations of the tensile strength in unvulcanised rubber, which shows to be short in applying the "hand pull test," give a rather deficient insight in the more or less shortness of the sample; the results of determinations of the viscosity only allow a restricted judgment about shortness, as the viscosity is influenced by many factors during the preparation.

The use of formaline as an anti-coagulant tends to increase shortness, bisulphite to decrease same; adding more or less acetic acid has no influence.

Generally speaking, the different ways of preparation, as followed in these experiments, proved to be of little or no influence on the degree of shortness; this fact is in accordance with the supposition that shortness is a mere superficial defect, caused by the colloidal nature of rubber (see above).

As already observed by other workers, shortness shows no influence on the qualities of the rubber after vulcanisation (viz. tensile strength).

Rubber prepared from latex of young plots of Hevea recently brought into tapping may show shortness; in growing older the trees give a latex from which rubber with normal qualities can be prepared.

It is worth being recommended, to mix the latex from young plots, recently brought in tapping, with the latex from elder plots, to prevent that shortness which eventually may appear showing itself in the rubber prepared from such "young" plots.

Generally speaking, formaline should not be used as an anti-coagulant in these young plots.

Malang, October 1919.

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held on 23rd December, 1919.

PROCEEDINGS.—The proceedings of the last meeting of the committee, which was held on the 9th December, 1919, were confirmed after previous approval in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON).—Letters, dated 13th, 20th and 27th November from the Indian Tea Association (London), which had been circulated to the committee, were now to be recorded. The principal subjects dealt with in these letters were as follows:—

(*a*) *Rise in tea prices.*—With the letter of 13th November there was forwarded copy of a letter, dated 7th November, received by the London Committee from the Ministry of Food. The letter was in the following terms:—

I am directed by the Food Controller to state, for the information of the members of your Association, that for some time past he has been viewing with considerable anxiety the rise in the price of tea at the public auctions held in Mincing Lane, and that he fears that, unless action is taken to check it, this rise will soon have a serious effect on the price of tea to the consumer.

After careful consideration, the conclusion has been reached that, if the buying over of tea was eliminated for the time being, it is probable that a reduction in the market prices of tea would be effected, especially having regard to the heavy shipments of tea from the East which have been arranged by the Ministry of Shipping at the request of this Ministry.

In these circumstances, I am to state that it is the Food Controller's desire that the buying over of teas should cease for a period of at least three months, when the question could be reviewed by this Ministry in consultation with representatives of the tea trade.

Mr. Roberts wishes me to ask that the members of your Association may be good enough to take steps to co-operate with him in this matter, and to say that he feels certain that he can rely on the support of your members being forthcoming.

(*b*). *Ocean Freight.*—It was noted that the London Committee had addressed the Ministry of Food with reference to the high rates of steamer freight prevailing for the carriage of tea. They pointed out that the rates in recent months had been:—In August 1919, 111*s.* 3*d.* per ton, in September 121*s.* 3*d*, in October 131*s.* 3*d.*, and in November 160*s.* The opinion was expressed that the rate was excessive, and that the high rates operated in the period of the year when tea shipments from India were heavy; and, it was obvious that the greater the cost of the freight, the more must be the producers' costs before the tea could be placed on the home market. In acknowledging the London Committee's letter, the Ministry of Food stated that the Food Controller was having the position brought to the attention of the Shipping Controller, with a view to ascertaining whether the rates were justified.

(c) *Scheme for extending the activities of the Scientific Department.*—It was mentioned in the proceedings of 25th November last, that a cable of 7th November had been received from the London Committee stating that, they were unanimously in favour of the scheme submitted for the expansion of the Scientific Department and, that they were recommending it to the members of the Association there.

In confirming this cable in their letter of 13th November, the London Committee wrote :—

In discussing the proposed scheme, my Committee were agreed that what they had chiefly to consider was the matter of increased expenditure, as it was recognised that your Committee are more in touch with the work of the Department, and can discuss questions of detail with the officers concerned. The Committee understand that, although they are asked to consider the scheme as a whole, it will take time before the advisory part can be put into operation, and their approval is, therefore, only asked for the time being, to that part of the scheme affecting the additions to the Central Station. It is understood that, the increased subscription necessary in the near future is not likely to be more than from 1½ to 2 annas per acre, according to the result of your Committee's appeal to the several Governments for increased subsidies.

The Committee fully recognise the importance of Scientific Research and advice in connection with the industry, and they are generally in favour of the proposed scheme to extend the activities of the Department, and will endeavour to secure the support of members on this side. It was accordingly resolved unanimously to cable you to this effect in reply to your telegram of the 30th ultimo.

The London Committee also emphasised the necessity of capable organisation and supervision of the Department, of ensuring that practical results should be obtained, and of so arranging that the Department should get into closer touch with superintendents and managers of gardens, and work in collaboration with them.

With reference to the amount of additional subscription likely to be required in connection with the new scheme, the Chairman mentioned that the figure stated by the London Committee appeared to be on the low side, as the actual additional outlay needed would probably exceed 2 annas per acre. The figures were, however, being examined, and a circular for issue to members was under preparation, and would shortly be submitted to the Committee for approval.

NOTE ON THE PRODUCTION OF TEA IN INDIA—FORM OF THE COLLECTION AND TABULATION OF STATISTICS.—In a letter dated 8th December, the Director of Statistics stated that the Board of Revenue, Madras, had proposed that in calculating the daily average of the number of persons employed in the tea gardens for the purposes of this return, the total statistics should be divided by 300 instead of by 365, as no labourer worked for more than 300 days a year. The Director invited the views of the Committee on the suggestion, and they replied that they approved of it. The papers were now to be recorded.

INDIAN TEA CESS COMMITTEE.—In a letter dated 1st December, the Government of India, Department of Commerce and Industry, referred to the resignation, by Mr. R. Graham, of his seat on the Indian Tea Cess Committee, and asked that the Association should submit the name of the gentleman whom they might decide to recommend for appointment to the vacancy. After a reference to Messrs. James Finlay & Co., Ld., the Committee nominated Mr. R. Langford James to succeed Mr. R. Graham.

NOTES AND NEWS.

THE FARMER AND THE EXPERT.

Mr. R. Cecil Wood, Director of Agriculture, Madras, has done us a double service this week in providing us with a leading article, and at the same time putting before the planting community the Expert's point of view on a much discussed question in planting circles.

MR. AYLMER FF. MARTIN.

We welcome Mr. Martin back to India and his friends, their name is legion, will thank us for putting on record his address which is :—

Chundavurrai Estate,
Ellapatti P. O.,
Via Bodinayakanur, S. India.

CASTOR OIL.

Press Communiqué, dated *Fort St. George*, the 20th December, 1919.

With a view to check the practice of adulterating castor oil before export, it has been suggested that the Government should provide facilities for the examination of the oil and the issue of official certificates of purity. The Government have considered the suggestion and have decided to allow the Chemical Examiner to test free of fee such oil as is sent to him by firms and individuals approved by the Director of Industries and to grant in each case a certificate showing the standard of purity attained. The scheme is entirely an experimental one, and will come into force from the 15th January, 1920.

PLANTERS' BENEVOLENT FUND.

A glance at the letters to the Editor in the concluding pages of this number will show that we have to record the advent of another patron of the fund, who voluntarily fines himself Rs. 200 for having forgotten all about it. One has only to read the address to realize that our new patron has had every reason to forget the fund, in the stress of active service, and his action in paying twice over is, under the circumstances, an all sufficing answer to those who profess some reason or other for a waning interest in the fund in spite of the appeals which have been constantly before them. We have also to welcome the Chairman of the Mundakayam P. A. (Mr. J. R. Vincent) whose subscription maintains the average of a patron a week since the appeal by the Secretary, U. P. A. S. I. in December.

ESTATE COOLIES.

With reference to our leading article under this heading in last week's issue, Mr. J. V. Shank of the Portland Rubber Company, Limited, writes as follows :—

" I have read with interest the leading article in the *Planters' Chro-*
" *nicle* of the 17th instant. The Rubber Planter is no doubt better off for
" labour than those in tea and coffee, due to large Moplar connections.

" The proprietor or manager of an estate or estates, should help the
" Labour Department to secure coolies by improving local conditions, but
" at the same time the Labour Department must help its subscribers.

" It must be remembered that we are dealing with uneducated classes,
" and the more one rules them with a rod of iron the more labour a planter
" is likely to secure if the Labour Department adopt the same principle.

" Local conditions. I do not think there is any great difference with
" local conditions in the F. M. S. and those of Southern India. If extra rice
" is given it is some compensation to the cooly, taking into consideration the
" malarious districts he has to live in. I believe the general rule on
" rubber estates is to give cumblies and rail-fares free, on condition the
" terms stated in the karar are adhered to by the coolies.

"It has been a great fault of the Labour Department allowing a "Maistry to keep coolies on estate B, to the detriment of estate A, and "unless this method is put a stop to by the Labour Control Committee "the Department is being worked on very unsound principles."

We do not quite follow his meaning in the last paragraph of this letter.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its) Correspondents.)

The Benevolent Fund.

Dear Sir,—The following may interest you.

(Initialled) H. W.

Makina,
Mes. Exp Force,
5 1—20.

Dear Waddington,—I originally promised Rs. 40 for five years, so as to become a life member.

As I am ashamed to find I forgot all about it, I am sending you a further Rs. 200, which I have fined myself for neglect.

This, with the Rs. 120 which I was due, makes the Rs. 320 amount of cheque enclosed.

I have heard no more yet about my being demobbed, but it must come soon.

Yours sincerely,

"....."

South India Planters' Benevolent Fund.

Sir,—I do not agree with the opinion expressed in your article on page 46 of the *Chronicle* of the 17th to hand to-day. It may be true, and I believe it is that, the setting aside of the rules in 1918 caused a lot of dissatisfaction, but the figures given by the Secretary in the circular sent to the different Associations prove that it was not the cause of the amount subscribed falling off. In the circular, it is stated that the average subscriptions for the first six years, 1909-1915, amounted to Rs. 3,500, and after that in

15—16	to	Rs.	3,000
16—17	to	„	1,955
17—18	to	„	1,253

The resolution objected to was not passed till 23rd August, 1918, or nearly two months after the close of the fund's financial year, 17—18. The

setting aside of the rule may now be being made use of as an excuse for not subscribing, but isn't the real reason for subscriptions falling off which is due to want of interest in the fund shown by Honorary Secretaries not pressing their members to support the fund.

Yours faithfully,

CASCIO.

Mosquito Blight.

16*th January*, 1920.

Dear Sir,—May I claim the hospitality of your paper to put forward some observations regarding your number of January 10th?

TREATMENT OF MOSQUITO BLIGHT.—Report by Mr. Carpenter, Scientific Officer, Assam Branch, India Tea Cess Association.

POTASH TREATMENT.—Mr. Carpenter states: "A method, however, was necessary whereby it could be ensured that soluble potash came into actual contract with roots of the bush, and this was obtained by forking away the soil from the fine hairy roots, growing near the collar of the bush collecting these into a bundle and placing them in a 50 cigarette round tin containing a 1 per cent. solution of some potash salt."

The application of potash, chloride and sulphide is stated to cause the disappearance of the mosquito from the bush in 20 days, etc. . . .

In view of this and, as a practical method of application of potash, chloride and sulphide is to be desired (presuming that one cannot corner the cigarette market) I venture to point out some peculiar properties of potash absorption by the soil.

In the double decomposition which takes place on the application of sulphate of potash and chloride of potash [leaving out nitrate of potash which in this experiment has not proved so satisfactory] potash is retained in the soil: calcium sulphate and calcium chloride appearing in the drainage water.

Voelcker has found, as has Mr. Carpenter, that certain soils absorb more potash than others.

In experiment, it has been proved that, if one applies soluble potash salts one-half of the estimated surplus potash received is retained in the top 9 inches of soil, after deducting that removed by crop. Some of the potash sinks further down and is retained in the sub-soil, but in the top 27 inches nearly one-quarter of the potash applied remains in such a state of combination that it may be regarded as available for the plant.

The tea bush being a surface feeder, one would conclude that there is no practical difficulty in thus treating fields with potash salts as we can be certain of the retention of the potash as regards its accessibility to the feeding roots.

If, on mechanical analysis, the soil of the attacked fields shews its suitability for surface retention of potash, we only require to know from our scientific friends, the suitable amount per acre of potash to be applied.

While apologizing for taking up so much of your valuable space, I have been forced to take up my pen owing to vehement hatred of these mosquitos who disturb me nightly when masticating the bushes close by.

Yours faithfully,

R. L. G. GOLDSMITH.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE of "A" Coffee.

(BY CABLE)

LONDON, 23RD JANUARY, 1920.

161s/- *per cwt. Market firm.*

LABOUR IN ASSAM.

At least one of our readers will remember that we published, about this time last year, a short summary of the proceedings of the Chief Commissioner of Assam relating to labour in that province, because he wrote to us on the subject. It is a matter of some interest to compare the wages earned by labour in tea in South India with the wages obtaining in other districts, but we must do so with the reservation that figures alone are an unstable reflection of actual conditions. We know very little of the cost of living, for example, and another point is that we do not know very much about the conditions in the recruiting districts so that where, in our own recruiting grounds, we have to face conditions of prosperity at the moment, it is quite possible that our Assam friends can get labour at cheaper rates from the fact that the immigrant population is forced into the planting districts by scarcity at home.

We could wish that space permitted us to publish in full this year's very interesting resolution on the Immigrant Labour Reports of the Deputy Commissioners of Labour Districts in Assam, for there is much of interest that must be omitted in a short article like this. The resolution deals

with the labour force imported during the year 1918—1919, for employment in tea gardens in Assam, in the Oil refinery at Digboi, in Coal-mines and in certain Saw Mills. The labour employed in Railways is excluded, and no account is taken of those labourers who are temporarily employed during the cold weather and return to their homes in April and May. The first item of interest is the strength and distribution of the labour force. The total strength at the end of the year was 1,084,957, an increase of 144,589 over the previous year, and, of these, 75% of the adults belonged to the plains districts of the United Provinces, Bengal, Bihar, Chota Nagpur and the Santhal Parganas. It is not possible from the report to say how many of these are employed in tea gardens alone, but from the fact that the area under tea cultivation was 405,131 acres, and that the number of adults employed per acre varied from 0·94 in Kamrup to 1·77 in Darrang we are probably not far from the mark in putting it down as 550,000 coolies.

Immigration.

The above figures mean the actual number employed at the end of June, 1919. The statistics of the yearly immigration show that last year the number of immigrants (222,171 men, women and children) was the highest on record for many years, and the increase is attributed to the existence of scarcity in recruiting districts, coupled with the stoppage of the abnormal demand for labour caused by the war. Employers, too, had to make good the loss from the ravages of influenza by importing large numbers of immigrants. Unfortunately the mortality was very high, and in this connection we would call attention to the proceedings of the Mundakayam P. A. on another page. In the year under review there were 665 deaths from cholera among the immigrants, and, it is said that the mortality would have been far greater, but for the prompt arrangements made for inoculation with cholera vaccine of all coolies before they left the recruiting districts.

Contracts and Wages.

The existing contracts executed by coolies under the provisions of the Emigration Act, now withdrawn, were further reduced by the efflux of time, and the number of labourers under Act VI of 1901 whose contracts had not expired at the close of the year was only 117. As these contracts expire or are cancelled, it is usual for the coolies to enter into fresh agreements under Act XIII of 1859. As the number of act labourers is now so small, the statement of their average monthly wages is not of much interest. The average is a little higher than last year, as will be seen from the following figures:—

(1) Of the total number on the books.

			Rs.	A.	P.
1917-18.	Men	...	8	1	6
	Women	...	7	9	5
1918-19.	Men	...	8	10	11
	Women	...	8	13	2

(2) Of the average daily working strength.

1917-18.	Men	...	10	4	7
	Women	...	9	15	10
1918-19.	Men	...	11	2	6
	Women	...	11	7	8

With regard to non-act coolies the average earnings were also slightly

higher. It is also pointed out that, in not a few gardens, rice was supplied, even to non-act coolies, at concessional rates. The averages were :—

			Rs.	A.	P.
(1)	Of the total number on the books.				
	1917-18.	Men ...	6	4	3
		Women ...	5	1	2
		Children ...	2	13	5
	1918-19.	Men ...	6	5	9
		Women ...	5	1	5
		Children ...	3	1	5
(2)	Of the average daily working strength.				
	1917-18.	Men ...	7	15	9
		Women ...	6	10	2
		Children ...	4	0	2
	1918-19.	Men ...	8	6	0
		Women ...	7	3	5
		Children ...	4	4	8

We will leave our readers to compare these figures with their own estates.

An interesting paragraph of the resolution is that relating to colonisation by *ex*- tea- garden coolies. At the close of the year the area of Government land held by coolies as tenants was 252, 247 acres, against 245,610 acres in the previous year. They also held 32,967 acres of land as sub-tenants, as against 34,059 acres so held during the preceding year. The area of Government land settled with Managers on special and ordinary leases, to enable them to provide their coolies with cultivation, was 18,613 acres.

SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Nitrates of Lime and Ammonia.

Copy of letter K. O. C. No. 614 of 1919, dated 26th November, 1919, from the Deputy Director of Agriculture, Planting Districts, Coimbatore, to G. A. Cowie, Esq , The Nitrate Trading Co , Ltd., 41, Eastcheap, London, E. C. 3.

I beg to acknowledge your letter dated 27th October, and in reply to inform you that Nitrate of Lime was tested in mixtures as compared with Nitrolim in a series of manurial experiments with coffee from 1913 to 1915. These experiments had to be abandoned during the war.

2. I have much pleasure in enclosing a copy of the results obtained.

3. Nitrate of Lime is used to some small extent in mixtures used on coffee and tea estates, and, as far as Nitrate goes, it suits our conditions very well indeed, since South India soils are markedly deficient in Lime and Alkaline fertilisers must be used in consequence. The price, however, is very high.

4. Nitrates as a whole, however, are not suitable fertilisers for plantation crops such as tea, rubber and coffee, with which I am concerned. We have a very high rainfall so that, unless great care is taken, Nitrates are apt to be lost in the drainage water. Our soils, as a rule, are fairly well supplied with available Nitrogen, and we find it better on the whole to supply Nitrogen in the form of organic manures like oil-cake and fish, available in the country at comparatively cheap rates, and thus keep up the humus canker of the soil and allow it to supply Nitrogen slowly.

5. I am, however, interested in all forms of fertilisers, and shall at all times be glad to hear of the progress of fertilisers like Nitrate of Lime, more especially if the cost can be lessened.

Copy of letter dated 19th December, 1919, from G. A. Cowie, Esq., The Nitrate Trading Co., Ltd., 41, Eastcheap, London, E.C.-3, to the Deputy Director of Agriculture, Planting Districts, Coimbatore.

I thank you for your letter of 26th November, enclosing copy of experimental results with coffee. I have also noted with much interest your remarks in regard to the use of Nitrate of Lime and Nitrate fertilisers in general, in Southern India. The reports which I have so far received from other sources in Southern India indicate that the use of Nitrate of Lime in mixtures, as the source of rapidly available Nitrogen, has given distinctly favourable results with coffee. I can quite understand the necessity for caution in the use of a highly soluble manure like Nitrate of Lime, but, if applied at the assimilative period in the growth of the crop, it would be very quickly absorbed.

I note you recommend the application of rapidly available Nitrogen after the monsoon, so it would appear that its use is practicable if due regard be paid to the time of application.

With regard to price this is, of course, largely conditioned at present by the freight, but in course of time prices will, no doubt, become distinctly easier. It may interest you to know that the production of synthetic nitrate in Norway is now practically 186,000 tons per annum. The main production, viz, Granulated Nitrate of Lime, is meeting at present with an overwhelming demand, especially in Scandinavia. Nitrate of Ammonia also constitutes a proportion of the production, and offers distinct advantages for export purposes. The analysis is 34 5% nitrogen, and the price at your side about £42-0-0 c. i. f. As you know, the nitrogen is present in the form of ammonia, which may be an important factor from the fertilising point of view. In this country, the official experiments conclusively shew that Nitrate of Ammonia is quite equal in efficiency to the other standard forms of combined nitrogen.

With the high prices which will rule for freight in the future, this concentrated form of nitrogen is worth serious consideration as a promising nitrogenous fertiliser in tropical countries.

THE SCIENTIFIC DEPARTMENT, U. P. A. S. I.

The Planters' Library.

In continuation of the list of Government publications, published on page 41 of the current volume of the *Chronicle*, the following, issued by the Agricultural Research Institute, Pusa, are of value to planters. These may be obtained from most publishers, or from the Office of the Agricultural Adviser to the Government of India, Pusa, Bihar, at the prices quoted.

BOTANICAL SERIES:

Volume IX, No. 5. Phytophthora Meadii on Hevea Braziliensis, by W. MacRae ... Rs. 1-4-0.

CHEMICAL SERIES:

Volume V, No. 6. Absorption of Lime by soils, by F. J. Warth and Maung Po Saw ... Rs. 1-2-0.

Bulletin No. 81. The value of Phosphatic Manures in India and the possibility of their manufactures on a large scale, by W. A. Davis ... Annas 4.

Bulletin No. 85. Soil Drainage, by R. G. Allan ... Annas 4.

Bulletin No. 87. A contribution to our knowledge of South Indian Cocidae (Scale Insects) by T. V. Ramakrishna Ayyar ... Annas 14.

Some Diseases of Cattle in India. A handbook for stock owners. Annas 8.

The following publications of the Indian Tea Association may be obtained from the Secretary of the Indian Tea Association, Calcutta, at the prices quoted.

No. 9.	Red Rust by Dr. Mann and C. M. Hutchinson ...	Rs. 1-4-0.
No. 19.	The Factors which determine the Quality of Tea, by Dr. Mann.	Annas 12.
No. 31.	Experiments on the Quality of Tea, by Dr. Hope...	Annas 12.
No. 34.	Note on the Cultivation of Tea Soils, by Dr. Hope.	Annas 6.
No. 37.	Some aspects of Modern Tea Pruning, by Dr. Hope and P. H. Carpenter	Rs. 2.
No. 38.	Notes on the Spraying of Tea by Messrs. Andrews and Tunstall	Rs. 2.
No. 39.	Suggestions for the Manurial Treatment of Tea Soils, by Dr. Hope and P. H. Carpenter ...	Rs. 2.
No. 40.	Tea Roots, by A. C. Tunstall, Part I ...	Annas 8.
No. 44.	Do. Do. Part II ...	Annas 8.
No. 41.	Report on certain aspects of the Tea Industry of Java and Sumatra, by Dr. Hope ...	Rs. 2.
No. 43.	Papers on Soil Denudation, by Dr. Hope ...	Re. 1.
No. 45.	Memorandum on the use of Artificial Manures on Tea Estates of Assam and Bengal. Decade 1907—17, by Dr. Hope	Annas 8.

It is not without bearing on the article by Mr. Wood in the last issue of the *Chronicle* that, for the moderate expenditure of a sum of Rs. 25, the planter might purchase a valuable library dealing with his industry in all its branches, and that, if he studied this together with the articles which appear and have appeared regularly in the *Planters' Chronicle* for the last eleven years dealing with scientific agriculture, his knowledge of the art might be considerably benefitted.

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

DISTRICTS PLANTERS' ASSOCIATIONS.

West Coast Planters' Association.

Proceedings of a General Meeting, held at the Malabar Club, Calicut, on Saturday, the 24th January, 1920.

PRESENT.—Mr. Campbell Hunt, Chairman, Messrs. W. K. M. Langley, A. Middleton, H. Waddington, H. J. Walmesley and E. H. Halliley, Acting Honorary Secretary.

Notice calling the meeting was read.

The proceedings of the last meeting were taken as read and confirmed

410. INCORPORATION OF THE ASSOCIATION—The Acting Honorary Secretary explained the progress as regards this, and Mr. Waddington, as

Secretary of the United Planters' Association of Southern India, informed the meeting that the matter was now in the hands of the Association's Solicitors, and that it was hoped the business would be completed before the end of March. With a view to having the accounts of as many District Associations as possible audited at the same time and of having the necessary annual returns made to the Registrar in the same form, it was proposed by the Chair:—

> "That, if the majority of District Associations decide that their "registered offices shall be in Coimbatore, this Association will "also register there." Carried unanimously.

411. ROADS AND COMMUNICATIONS.—The Acting Honorary Secretary read correspondence with the U. P. A. S. I. in connection with the resolution passed at Bangalore in August last in regard to making roads in, and leading to, Planting Districts capable of carrying commercial motor vehicles. The Secretary of the U. P. A. S. I. placed before the meeting the note he had prepared on the subject for the Executive Committee, with which the meeting agreed as regards roads in the Madras Presidency.

Proposed by Mr. Halliley and seconded by Mr. Walmesley:—

> "That the United Planters' Association be requested to press the "matter of the roads in Cochin Territory being made capable of "carrying heavy motor traffic." Carried.

412. LABOUR DEPARTMENT.—Mr. Waddington explained the steps taken to carry out the resolution passed at the Annual Meeting of the United Planters' Association in regard to a report on new areas from which to obtain labour. Some discussion ensued in regard to Labour Suppliers from South Canara, who contract to supply labour to more than one estate at the same time, but no resolution was put to the meeting.

413. MILITARY SERVICE ACT OF 1920.—Mr. Waddington read his report on the meeting, held at Madras on the 16th December. Recorded.

414. SOUTHERN INDIA PLANTERS' BENEVOLENT FUND.—The matter of this fund was then fully considered, the opinion of those present being that the falling off in the amount of subscriptions received was entirely owing to the difficulty of collection of the small annual subscription, and it was suggested that either "Charity Stewards" might be appointed in all Districts, who would see to the collection of the annual subscriptions, or that they might, like the "Rupee Fund," be collected through Planters' Clubs. The Secretary reported that he had collected a certain amount, but had deferred sending it in till other subscriptions promised were paid.

415. LABOUR LAWS.—As the question of the repeal of Act I of 1903 and amendment of Act XIII of 1859 is not one that at present immediately affects planters in Travancore and Cochin, it was resolved to leave the matter of representations to the Executive Committee, at the meeting to be held in Madras next month, in the hands of Mr. R. Lescher.

RETIRING HONORARY SECRETARY.—On the proposal of the Chairman, a most cordial vote of thanks was passed to Mr. Halliley, for the work done by him as Honorary Secretary, which he now vacated on going Home on leave.

With a vote of thanks to the Malabar Club for the use of the room, and to the Chairman, the proceedings terminated.

(Signed) CAMPBELL HUNT,
Chairman.

(„) E. H. HALLILEY,
Acting Hon. Secretary.

Mundakayam Planters' Association.

Minutes of the Annual General Meeting of the Mundakayam Planters' Association, held at the Mundakayam Club, on the 17th January, at 2 p. m.,

PRESENT.—J. R. Vincent (Chairman), Messrs. Harley, Hamond, Hall, Hartley, Lyndon, Lester, G. McPherson, H. B. McPherson, Murphy, Millar, McLean, Mawer, Parker, Sullivan and Thom.

Visitors.—Messrs. Howson, Peckover, Shore, and Dr. McCormack.

In referring to the recent deaths of two members of the Association the Chairman said: "Gentlemen, I have a sad duty to perform in bringing "to your notice the lamentable deaths of Mr. N. D. Pollock and Mr. H. B. "Kirk, which have occurred recently in our District. In Mr. Pollock we have "lost one of our cheeriest, most hardworking and best of men, whose work "and keen interest in the District for the Club and for the Association has "been invaluable. In Mr. Kirk, too, we have lost one of our oldest mem- "bers—one who was always foremost in our games and in the social life of "our District. Our feelings go out in profound sympathy to their relatives, "and especially to the little children left by Mr. Kirk. I will now ask you "to pass a vote of condolence, in silence, and standing, with the relatives, "to whom our Honorary Secretary will write giving our deep sympathy in "the loss they have sustained."

MINUTES.—The vote of condolence having been duly passed, Mr. Hall proposed and Mr. Hamond seconded that the minutes of the previous Meeting, held on the 4th October, 1919, be taken as read. Passed.

Chairman's Address.

Gentlemen,—In this report, owing to the sad loss of our Hon: Secretary, I have to combine the usual report by the Secretary with that of my own, and so I must crave your indulgence if it appears longer than usual.

MEMBERS AND ACREAGE.—The number of members of the Association is one less than in 1918, and the acreage, too, is less by 316 acres. We have now on our books 11,536 acres of rubber and 1,133 acres of tea, making a total subscribing acreage of 12,669 acres.

CROPS. RUBBER.—In 1918, we produced 2,185,772 lbs., and in 1919, 2,355,624 lbs. Tea in 1918 gave us 362,717 lbs., and in 1919, 472,011 lbs. Although the total rubber produced is higher in 1919 than in 1918, yet the amount per acre has not appreciably increased, owing to the large amount of rubber which came into bearing in 1919 for the first time.

Tea has done well, with an increase in crop of 160 lbs. per acre in 1919 above 1918 figures.

ACCOUNTS.—We commenced the year with a deficit of Rs. 53, and ended it with a surplus of Rs. 696. A budget is placed before you shewing a balance of income and expenditure to the good, of Rs.100 in 1920. The cess is calculated on a basis of Rs. 1-11-0 per acre for tea and Rs. 1-7-0 per acre on rubber, and this will allow us a local income and expenditure of annas 3 per acre during the year. There is nothing much to remark about the accounts, except that they have been well kept by Mr. M. P. Verghis, who states that he has kept them for four years and that he asks a bonus in consequence. A sum of Rs. 500 has been budgetted to reserve for payment of Incorporation expenditure, which will have to be faced, and for which it is only prudent for us to make provision.

The accounts have been audited by Mr. Howson, to whom we owe our thanks, and whom, I hope, we shall soon be able to welcome as a member of our Association.

SRI MULAM.—I represented the Association again at the Sri Mulam Popular Assembly, and brought up the question of roads, and a hospital for Mundakayam. With regard to the former, His Highness' Government has been good enough to give us practically all we asked on the Mundakayam to Yendayar Road, but I have no news as to what has happened to the Cheruvally-Vellanadi Road, and, unless the road has been definitely sanctioned, I propose to allude to it at the Sri Mulam in 1920. With regard to the hospital we were not so fortunate, and I fear that a long time will elapse before one is granted to us.

In 1920 we are to ask for the Mundakayam Market place to be moved to a more suitable site than the one on the road to Vellanadi, and the question of roads will be brought up again, with especial reference to the Palai-Erruthupetta Road.

TRAVANCORE LEGISLATIVE COUNCIL.—You will all be glad to hear that Mr. J. Mackie, of Messrs. Harrisons & Crosfield, Quilon, has been unanimously elected as the Planting Member of the Legislative Council, Travancore. Mr. J. Mackie has already done a lot of useful work for us in the Council, and I am sure you will all agree with me that we could not have nominated and elected any one more suitable than Mr. Mackie, to whom we offer our congratulations.

MEETINGS.—During the year we held one Extraordinary General Meeting, two Quarterly General Meetings and five Committee Meetings, all of which were well attended.

U. P. A. S. I. MEETINGS.—With Mr. Hall, I had the pleasure of attending the Annual General Meeting of the U. P. A. S. I. at Bangalore, with a certain amount of success from the standpoint of our local Associa-

tion, but, I fear, judging by criticisms in the press during and after the meeting, that we were not appreciated in certain quarters as much as we deserved. We have no cause however, to grumble, because the U. P. A. S. I. has recognised the wants of our District, and of rubber in South India generally, and has generously carried out the promises made to us in 1918.

INCORPORATION.—The Memorandum and Articles of Association, as modified and amended by us, have been sent to the U. P. A. S. I. Secretary, and I presume that they will in due time be drawn up by Messrs. King and Partridge, after which we can proceed to have the Association Incorporated.

MEMORIAL TABLETS AND ROLL OF HONOUR.—I regret that these should have been delayed so long as they have. Much difficulty arose as to the names to be inscribed on the Memorial Tablet, but the order for the tablet has now been placed and it will, I hope, soon arrive. I have made enquiries as to whether the "Roll of Honour" has been ordered, and am awaiting replies from the firms to whom I have addressed my enquiries.

MYCOLOGIST STATION BUILDINGS.—I have asked Mr. Harley to tell you how these are progressing.

SUPPLIES.—During the year I acted as president of the Sub-Committee appointed in Mundakayam by Government to supervise the buying and selling of rice for the poorer population. A lot of good work has been done in this direction, and quite a certain amount of distress alleviated, but the import of Government rice and the selling of it at controlled rates has not apparently had any effect on the price of control-free rice in the bazaars.

The foregoing records all, I think, that would have been embodied in the Hon: Secretary's report for the year.

It is usual for the Chairman of the Association to say a few words as to the rubber and tea industry, and especially in so far as they affect our District. I cannot lay claim to a greater or better knowledge of the position than you yourselves, and so I must ask you to deal gently with me when you criticize what I am going to say. As you are all aware, the price of rubber has advanced during the past 6 months from the neighbourhood of two shillings per lb. to 2*s*. 10½*d*. in a recent quotation. I have heard it said the position of rubber therefore is secure, because the price for which it sells has risen concurrently with the rise in the value of the rupee, and that the value of the rupee will therefore be a factor in the selling price of rubber. This, gentlemen, is a fallacy, and should not be believed for a moment. At the Annual General Meeting of the U. P. A. S. I., I put this as clearly as I could before the Parent Association, which accepted my views by carrying the resolution I proposed. So long as we continue in Ceylon and India to produce anything under 25% of the world's production of rubber, our cost of production cannot appreciably affect the selling price of rubber, which is determined by the cost of production in the countries further east. There is apparently a little boom in rubber at present, and, fortunately for us, it comes at a time when exchange is adverse to our interests. What, however, would really help us at the present, would be for the Malay States Dollar to be on as free a basis as the rupee with regard to exchange. This I am afraid cannot be more than a pious wish, and we

can only rely on our cheaper cost of production to give us a good return on capital invested. Rubber held the unenviable distinction of being the only one out of a score of important products, such as steel, cotton, wheat, rice, etc., whose value did not rise in the five years ending June, 1919. The other products I have mentioned went up in value, in some cases three and four hundred per cent., during that period. I therefore had cause in my last address to this Association, in taking a gloomy and pessimistic view of the situation. Now, however, with better prices, which we hope will be maintained, rubber investors should begin to enjoy some of that prosperity denied them during the strenuous years of war.

What will happen with regard to exchange, we are unable to foresee, and all we can hope for is for it to remain stable at a lower rupee value than at present. A lot is said, by men who believe they have studied this question thoroughly, to the effect that a high money value means cheap commodities, and a low value, such as is experienced in many countries in Europe to-day, means dear commodities. It would appear that in actual practice this is not so, and I daresay that most of you here present have found that, in spite of the high value of the rupee, prices of all commodities, whether of imported goods or locally produced articles, are much higher than you have before experienced.

The position with regard to shipping has now greatly improved, and our troubles, which came thickly upon us during the war, would appear one by one to be slipping away from us. We still have to try however and regulate our position with regard to freight rates. I do not know whether the U. P. A. S. I. communicated with the South Indian Association in the matter, as they were requested to do at the last Annual General Meeting, but if not, I think that a combine of tea, coffee, and rubber producing interests would be sufficiently strong to reduce the high freight rates now ruling, and make an arrangement on the lines proposed by Mr. Mackie in August at Bangalore.

There are two other questions I wish to speak about, and these are the provision of the staff for the Mycologist's station, and the Hon'ble Mr. Richardson's circular *re* labour.

With regard to the first, we still have to regret that neither the Mycologist nor his staff are yet forthcoming, and we trust that the U. P. A. S. I. are not losing sight of our needs in this direction. Owing to the energy and immense amount of work which Mr. Harley has put in during the year on the buildings of the Mycological station, these all will be completed, we hope, in March. In this connection I should like to say this Association owes a great debt to Mr. Harley for his disinterested and self-sacrificing work, and I trust that, when the station is properly staffed and in full working order, we shall always remember that it is mostly due to his efforts that the scheme has taken practical shape.

With regard to Mr. Richardson's circular dealing with labour, I can only say that it is brimfull of common-sense, and that his warnings and the recommendations should be carefully considered and taken to heart. There are a few copies now laid on the table before you, from which you will see that he asks for better housing, better medical attention, and better conditions all round for the cooly, and warns us that the time is rapidly approaching when, unless we give these of our own free will, they will be

forced from us by Government. All I can do is to ask you earnestly to consider the questions raised.

Gentlemen, I will now conclude. I have been Chairman of the Association for three long years, and feel that I require a holiday. I also feel that, with so many new men in the District, some new blood is required on our Committee and to take office.

It has been a great pleasure to me to work with you all during the past three years, and I trust, on my part, that you have been satisfied with the efforts I have made on your behalf.

I now place my resignation in your hands.

MYCOLOGICAL STATION.—Mr. Harley then reported on the work done at the Mycological station as follows:—

Gentlemen,—The Chairman has asked me to write a few notes on the progress of building the Mycologist's Bungalow, Laboratory, and other buildings sanctioned by the Executive Council of the U. P. A. S. I.

The site selected for the buildings is, as you all know, most central and visible, I believe, from every estate in the District, with the exception of Teekoy. The Travancore Government has been most sympathetic in making a free grant of the land occupied, viz., 3 acres in the grazing Reserve, and also in allowing us to take up on lease 13 acres of Patchima Devaswam land lying between the compound and Aneikulam Estate. Government also permitted the cutting of a cart road through the grazing Reserve.

The first works taken in hand were the cart road and the Mycologist's Bungalow itself. The former was quickly cut and roughly metalled. The road is one mile in length, and is cut 12 feet in the solid. The track is metalled 10 feet wide, with 6 inches of 2nd class metal, and 14 culverts are provided for carrying off its share of the monsoon.

The building of the Bungalow has been slow work. From the day Mr. Anstead laid the foundation stone in May, we had no real building weather until November, in fact 175 inches of rain fell to delay work. In spite of this, building went slowly on under a large pandal as fast as the setting of the lime and stone masonry permitted. Since November, work has progressed rapidly. The actual masonry work will be completed in the coming week. The tiled roof most of you will have seen for the last few weeks. The finishing of the Bungalow will still take another month. The kitchen and servants' quarters are already completed.

The building of the laboratory is in an advanced stage—the actual walls and roof will all be up within the next fortnight.

A set of quarters for peons is completed.

A clerk's house is nearing completion, and I hope will be finished in the course of ten days.

A commencement has been made on a building to garage two cars on one side, with three stalls for horses on the other.

The building of the two Bungalows for the 1st and 2nd Assistant Mycologists has still to be taken in hand, but, with the big force of masons, carpenters, etc., now on the works, these can be completed by early in March. The sawing for these buildings is finished.

The rates that we are having to pay for work and materials in the buildings are high as compared with estate work, but it must be borne in mind that we have everything to buy, and that transport accounts for a large percentage of such rates.

With regard to the financial position, the U. P. A. S. I. sanctioned certain buildings, and since then a Garage to hold two cars, and with stabling for three horses, has been agreed to. In the estimate and plan for the Bungalow no provision was made for a kitchen and servants' quarters, and these have to be added. The amount necessary for peons' quarters, too, was found inadequate. In addition to these questions, transport rates have increased very heavily since construction was begun, with the result that the previous estimates will be exceeded by 8,000 to 9,000 rupees.

Mr. Murphy, in proposing that Mr. Harley's report on the Mycological station be accepted, and that he be thanked for same, stated that he had recently seen the buildings, and thought we had excellent value for the money.

Mr. Hamond seconded the proposition, which was carried unanimously.

ROADS.—Mr. Hall brought forward the question of the Rani-Manimala Road which, he said, was in a very bad condition, and said that he wished Government would have the road metalled and spend not less than Rs. 2,000 per mile on it.

Mr. Hall then proposed, "That Government be asked through the Sri "Mulam delegate to carry out repairs of a permanent nature on the Rani-"Manimala Road, and to speedily construct the road from Cheruvally to "Vellanadi." This was seconded by Mr. G. McPherson, and carried unanimously.

MEMORIAL TABLETS.—The Chairman proposed that, "The cost of the Memorial Tablet be subscribed for by Proprietors of Estates on an acreage basis, and that subscriptions for the "Roll of Honour" be raised locally." Carried unanimously.

HOOKWORM.—Dr. McCormack then addressed the meeting on this subject, stating that it was becoming more and more serious, and suggesting that many apothecaries had only a slight and imperfect knowledge of the best methods of curing sufferers from it, or of sanitary methods calculated to eradicate it from estates, and that he would recommend that all Superintendents and Apothecaries procure a copy of "Hookworm Disease, its cause, treatment, and prevention," by Dr. Chas. A. Bentley, H. B. D. P. H., D. T. M. & H., Sanitary Commissioner for Bengal.

On the notice of the Chairman, it was resolved that each Estate Superintendent in the District be provided with a copy of the pamphlet from the Association funds.

CHOLERA INOCULATION.—Captain R. Lester stated that, in view of the fact that inoculation with Anti-Cholera serum provided the best preventive known against cholera, and that as cholera was a periodical occurrence in this planting district, he would be glad to see some arrangement for a supply of the serum to be available for use whenever an epidemic, occurring in near by villages, was feared to be approaching the District. He shewed that there were no ill effects after inoculation, and that employees could be inoculated and remain at work. He was supported in all he had said by Dr. McCormack, after which Capt. Lester proposed, and Mr. Hamond seconded, "That the Honorary Secretary write to the Durbar Physician with a view to the Travancore Government obtaining a sufficient supply of Anti-Cholera serum with which, if necessary, all estate employees could be inoculated." Carried unanimously.

U. P. A. S. I. GENERAL COMMITTEE MEETING.—Mr. Hall read his report on the last meeting of the General Committee of the U. P. A. S. I. which he attended, as follows—"The notice calling the meeting for November 1st was read, and all present agreed. The minutes of the previous meeting were then taken as read and confirmed. The first item on the agenda to be discussed was "The Labour Laws Amendments". The discussion which ensued was carried on by the Wynaad and Nilgiris members principally, as these Districts are the only ones concerned with the Madras Planters' Labour Act I of 1903. Mr. Malcolm (Wynaad) spoke at some length, to the effect that such a drastic step as the abolition of Act I should not be taken without time being given to consider and submit suggestions for its amendment, to those who had been dependent on it for the efficient working of their labour, and he put a resolution to this effect, which was seconded by Mr. Vernede on behalf of the Nilgiris Association, and carried. The Secretary, Mr. Waddington, then read a communication from Government in which they asked for a definite reply by November 15th. With regard to Act XIII of 1859, Mr. Congreve, Anamalais, put a resolution to the meeting accepting the Government's proposed amendments, provided that the limit of advance to Rs. 300 be deleted and that the "Maistry" or "Contractor" comes under the Act. This was seconded by Mr. J. S. Nicolls (Nilgiris-Wynaad), and, on being put to the meeting was carried. The question of extradition difficulties was not considered as coming under the "Labour Laws" discussion, and consequently your member did not raise any question.

The next item to be taken up was the proposed "Co-operative Stores." The discussion centred on how the proposed capital was to be raised. Sir Fairless Barber was very strong on the control being kept by planters, and pointed out that it only required 100 subscribers of Rs. 5,000 each to raise 5 lakhs. Some wandering discussion ensued, when it was decided to leave the matter to the Executive Committee, who would meet immediately after lunch. (It should be noted that the Executive Committee had not met up to this). The result of the Executive Committee discussion has been circulated to all Planters in South India.

PLANTERS' WAR MEMORIAL.—The Secretary, for the information of the members present, explained the proposal that we should join with others in launching a comprehensive scheme to meet the Medical, Nursing and Convalescent necessities of the non-official community, and read Mr. Godfrey's remarks on the circular issued to all Honorary Secretaries of District Associations and Members of the General Committee. After a short discussion, the matter was left to the Executive Committee.

A cordial vote of thanks was passed to Mr. Hall for his report.

PLANTERS' BENEVOLENT FUND.—The Chairman addressed the meeting on this subject, and the Honorary Secretary, *pro-tem*, read the last circular from the U. P. A. S. I. dealing with the Planters' Benevolent Fund. It was resolved that the Honorary Secretary circulate a list asking for subscriptions.

ACCOUNTS FOR 1919.—Mr. Howson was cordially thanked for auditing these, and a bonus of Rs. 25 was voted to the clerk who had kept the accounts of the Association.

ELECTION OF OFFICE BEARERS.—Amidst applause, Mr. J. J. Murphy was elected Chairman and Mr. J H. B. Sullivan, Honorary Secretary. The Committee was elected as follows:—Messrs. J. R. Vincent (Vice-Chairman), E. Hall, G. McPherson, R. Harley, and C. McLean.

MISCELLANEOUS.—It was resolved that the Honorary Secretary of the Mundakayam Planters' Association should write the Director-General of Posts and Telegraphs, and request him to write and reprimand the Postmaster, Mundakayam, for irregularities in the post, and for the opening and mutilation of telegrams.

On a motion by Mr. Hamond, a vote of condolence with the parents of the Revd. J. H. Osmaston was passed, and the Honorary Secretary was requested to communicate the same to them.

With a vote of thanks to the Chair, the proceedings terminated.

(Signed) J. R. VINCENT.
Chairman.
(,,) J. H. B. SULLIVAN,
Honorary Secretary.

MARKET REPORTS.

Our last report (January 17th) carried us up to December 11th, but since its publication we have been favoured with Messrs. Grace Brothers & Co's report for the period ending Dec. 10th. This report emphasizes the remarks already published regarding continental exchange and its effect on the market. The Santos "futures" market, we read, has been rather easier, valuations being about 2s. 3d. to 4s. 9d. lower. Stocks in London of all kinds were 20,495 tons, against 20,594 tons in the previous year. Altogether, the market has had some weeks of dullness, and we are glad to note from subsequent reports by Messrs. Leslie & Anderson that there was an improved tendency towards the end of December. This is attributed to the smart recovery of the French Exchange, which reached, on the 18th December, frs. 40·30 against Frs. 45 in the previous week. Better prices were anticipated, as will be seen from the *Produce Markets Review*, which writes:—

> "Fine Costa Rica and Mysore are scarce, and prices are fully maintained. There is very little good Nairobi available, and a consistent enquiry for this description keeps prices firm. The Uganda obtainable is mostly "musty," and a dangerous coffee for the grocer to handle unless carefully selected.
>
> "Generally speaking, home trade requirements are not easy to fill, and, as the quantity and quality of new crop to be consigned to this country is unknown, and likely to be smaller than usual, useful parcels now available are worthy of attention. There is a good demand for Nairobi, the stocks of which are very short, otherwise the demand from the country is not keen, as attention is concentrated on special seasonal lines. It is anticipated,

" however, that many grocers will find their stocks low when they " have time to go into the question, and business will therefore be " brisk in the latter half of January, at probably higher rates. "

A glance at our weekly coffee cables will justify this latter statement, the price for " A " coffee having reached 163s. last week, and, on a firm market, is now quoted at 161s. per cwt. Owing to the Christmas holidays there has not been much business doing, and the market was closed until January 6th. The next mail should bring us details of the auctions on that date, which will no doubt form interesting reading.

Locally, spot sales have taken place at as much as Rs. 70 to Rs. 70 8·0 for plantation, which of course is much higher than the parity of home prices, with exchange at 28¾d.

LONDON COFFEE RETURNS.

	Home Consumption.		Export.		Stock.	
—	1919.	1918.	1919.	1918.	1919.	1918.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
For week ended December 13 ...	406	259	180	3	20,663	20,137
For 50 weeks ended Dec. 13 ...	17,534	23,847	18,573	5,364	...	...

LONDON COFFEE RETURNS.

	Home Consumption.		Export.		Stock.	
—	1919.	1918.	1919.	1918.	1919.	1918.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
For week ended Dec. 20 ...	337	300	438	1	20,133	19,862
For 51 weeks ended Dec. 20. ...	17,871	24,147	19,011	5,365	...	...

TEA.

This commodity continues to find a steadier tone at auctions. The decline in values was attributed in some measure to the inferior qualities arriving, so that no surprise is expressed at a more animated market. Whole leaf kinds of Ceylon Tea sold at 1s. 5¼d. Public auctions were suspended in Christmas week and reopened on January 5th. The Tea Broker's Association reported in their latest circular :—

The year now drawing to a close may be summed up as having been one of considerable difficulty, and many surprises for all concerned. The transition stage from Government Control to measures of gradually increasing freedom meant much labour and expense for the distributing branches of the trade, but it is to be hoped that these troubles are nearly over.

So far as prices are concerned, the wide fluctuations experienced at various times constituted a disturbing element in the course of business ; the economic law of supply and demand is, however, now slowly asserting itself, and, if left alone will, it is hoped, automatically re-establish conditions on a safe and equitable basis for the Importer, the Trade and the Public.

So far as the statistical position in London is concerned, Messrs. Leslie & Anderson say that Brokers do not look for an advance in values, but rather a decline, owing to the heavy shipments coming along.

At the same time the short hours at the Wharves and the congestion at the Docks limits the deliveries of tea available each week, with the result that the trade compete for their share of the tea as it is released, hence the firm market, which is rather artificial.

RUBBER.

If we are to believe Reuters, the recent rise to 2s. 10½d. was due to a smash on a small scale at home, details of which, strangely enough, have not come to hand. The market has receded to 2s. 8½d., which is still in advance of December figures. The New York demand continued active and, with deliveries again exceeding imports, stocks in London have been reduced to 22,000 tons. The supplies available for spot purchases are reported to be exceptionally small. The tone of this market is distinctly firm, with a tendency upwards.

MINOR PRODUCE.

PEPPER.—The market has been distinctly better, but business was small. Improvement was looked for after the holidays.

CARDAMOMS.—Local reports state that good cardamoms will sell well, but inferior kinds are not wanted. Messrs. Volkart Bros. report sales at 31/8, 32/- 33/- 34/- 36/8, 37/8 and up to Rs. 39 per maund.

NOTES AND NEWS.

CEYLON TEA.

Extract from the *Ceylon Chamber of Commerce* Weekly Price Current, showing particulars of tea railed to various destinations from Colombo for the three weeks ending 12th January, 1920.

		lbs.
Tellicherry	... ...	4,703
Calicut	... ...	4,500
Mangalore	... ...	300
Cannanore	... ...	14,155
Trichur	... ...	2,185
Ramnaad	... ...	320
Ayampet	... ...	354
	Total...	26,519

RATES OF PAY.

The Planters' Association of Malacca have passed a resolution that it is extremely advisable, in view of the future successful recruiting of labour from India, that all estates in Malaya agree to allow old exchange rate of Rs. 175 for one hundred dollars on all *bona-fide* remittances by labourers to their relatives in India during the current year. The increase in daily rate pay is not considered to be necessary at present, but the sale of rice to labourers below cost price would be continued.

A RUBBER FACTORY FOR INDIA.

The Calcutta *Englishman* learns that a group of financiers, in connection with certain Ceylon and other planters, contemplate the floating of a private company which will manufacture commercial rubber on a large scale, at a factory to be located somewhere on the East Indian Railway.

At the present moment, much of the crude rubber that is put on the market is so full of impurities that sometimes as much as fifty per cent. of it turns out to consist of foreign matter when placed under the rollers of the

washing machines. As the process of washing and cleaning of crude rubber is a very simple one and the machinery inexpensive, it is evident that the vulcanising of the product can be done on a large scale in India. All plantations in Ceylon, Assam and the Straits will themselves instal the machinery for washing and cleaning. In many cases this has already been done, with the result that the Hevea rubber of the East is beginning to turn out as valuable as the Para rubber of Brazil.

Crude rubber is made of commercial value by valcanisation, that is, it is hardened by the action of sulphur or some compound of that element. An essential part of the process is the exposure of the compound to a high temperature, usually in a closed iron vessel into which high pressure steam is admitted. If the process of vulcanisation is carried too far, the rubber becomes very hard, and it then takes the name of ebonite or vulcanite, which is of value for insulating purposes and also for the construction of vessels which are required to resist the action of acids.

The proposal is that the company will make a special feature of the manufacture of vulcanite, for which there is a demand which might grow to be as big as that for rubber itself.

HE MUST HAVE BEEN A PLANTER.

A man who has been some years in Malaya relates the following personal incident of a trip from India to Penang. He had obtained a bottle of whisky, and it was on the table in front of him when the passengers sat down to their first meal after leaving port. A missionary lady was seated next to the man with the bottle, which was espied by her little son, who asked his mother what it contained. The lady answered, "My son, there is something in that bottle which, I hope, you will never touch. And the man from Malaya broke in—" I hope not. That bottle has to last me till I get to Penang."—*Penang Gazette.*

COUNTERFEIT NOTES.

(News Slip from the Publicity Bureau). It is reported that counterfeit five pound Bank of England notes have been put into circulation, and it is possible that these counterfeit notes may find their way to India. The public is therefore warned to take precautions before accepting five pound Bank of England notes, if these are offered in this Presidency in payment or in exchange for Indian currency.

PASSPORTS.

Press Communiquè, *Fort St. George*, 17th January, 1920. The Government of India have recently ruled that passports presented after the expiry of two years from the date of issue should not be renewed. Passport-holders are, therefore, advised to have their passports renewed before they become invalid through lapse of time, otherwise they will be put to the inconvenience of obtaining fresh passports.

RUBBER SEED SELECTION.

In his Presidential address to the Botanical section of the British Association for the Advancement of Science, Bournemouth meeting, 1919, Sir Daniel Morris, K. C. M. G., formerly Imperial Commissioner of Agriculture for the West Indies, had something to say about the great value of breeding experiments with Hevea. A start has only just been made, and progress will be slow compared with that attained in the case of annual crops, but the work has been started. For instance, at the Heneratgoda Gardens in Ceylon, there are fifty Hevea trees whose individual latex-yield has been recorded for every tapping since June, 1908. One tree, marked No. 2, has yielded an amount of rubber far in excess of any other tree. In 1912, seeds and stumps taken from this tree were established. When the trees are fit for tapping and the good yielders are

determined, the poor yielders will be cut out and the remainder reserved for seed purposes.

In this connection the suggestions put forward recently by a writer in the *India Rubber World* (Octr. 1, 1919) are deserving of attention, says *The Agricultural News*.

The procedure to be followed in order to obtain the best planting stock should, according to this writer, be as follows :—A number of the oldest trees to be found growing under the same conditions should be selected. It is important to select the oldest trees, in order that one may be certain that the trees have not suffered from disease, and may therefore be regarded as immune. Presuming that of these oldest trees those which show no evidence of ever having been attacked by disease are selected, it remains to select from the remainder the highest yielders. If two or more trees yield about the same quantity, the choice should fall on the tree producing the best quality of latex. This latter point is of less importance than yield and disease resistance, unless very great differences should be found in the course of the experiments.

In summarizing his article, the writer says: "The present method of reproducing Hevea should be discontinued. Breeding to obtain a better strain is, for technical reasons, out of the question for any commercial firm. Seedling selection offers no solution, on account of the inability to know what to select. Artificial propagation will overcome the difficulty. Methods of artificial propagation may be divided into two groups: those providing for their own root systems, and those where one tree is grafted upon another. One of the simplest methods is that carried out lately in Sumatra, namely budding. When resorting to budding or grafting, it is important to remember that attention must be given to the selection of the stock principally in regard to resistance to disease.

"Carefully selected trees should be used for propagating stock, taking into account productivity, disease resistance, and quality of the rubber."

THE RUBBER MARKET.

Writing of the Produce markets in December, 1919, *Tropical Life* says :—

The fact that the forward price of rubber (2s. 7¾d.) was above the spot price (2s. 7d.) was one p int to be pleased over. Another matter for congratulation is the confidence shown in those who, having come home from the East, are telling us how clean and healthy looking the estates are. "Travellers' tales" on such subjects are generally greeted with silent tolerance or open jeers; this time, however, importance seems to have been attached to the statements made. From all we have heard, such judgments are fully justified. If the estates in foreign countries, other than rubber, were, as a rule, looked after as carefully as ours are, there would be fewer reports of bud-rot disease on cocoanut lands or of thrips and mosquilla on cacao estates. It should be noted that expert authorities are expressing doubt as to the correctness of published figures as to stocks and movements of raw materials. Is not this a serious matter? Whose figures are being doubted—are they those of our Board of Trade? If so, the sooner confidence is regained the better, otherwise why waste money to compile such reports; nay, more, why issue figures in which those who know most seem to trust the least? Who is to benefit? Not the planters and the consuming public. "The published figures for rubber are far from reliable," we are told; the same also is true with cacao, and then there is sugar. We cannot prove these figures are wrong, but we do know that those who should have perfect confidence in them fail to trust the returns to-day as they did in the past.

PLANTERS' BENEVOLENT FUND.

This week's patron is Sir Robert Stanes, and we trust his example will be followed up, so that the splendid average of a patron a week may be maintained. Other subscriptions are coming in slowly, but we understand that several Honorary Secretaries have received subscriptions which they are holding up in order to send them in a lump sum at a later date.

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held on 6th January, 1920.

An apology for inability to attend the meeting had been received from the Hon'ble Samuel Best, and Mr. W. F. Reynolds was detained at another meeting.

PROCEEDINGS.—The proceedings of the last meeting of the Committee, held on 23rd December, 1919, were confirmed after previous approval in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON).—Letters dated 4th and 11th December, 1919, from the Indian Tea Association (London) which had been circulated to the Committee, were now to be recorded. With the letter of 4th December there had been received copy of a letter addressed by the London Committee to the President of the Board of Trade regarding the *Restriction of Exports*. It was in the following terms:—

I am directed by the General Committee of this Association to draw your attention to the existing restrictions on the export of tea, and the detrimental effect they are likely to have upon trade with foreign countries.

In view of the present congested state of the Bonded Tea Warehouses and the abnormal quantity of tea which will reach this country within the next two or three months, my Committee are strongly of opinion that the time has now arrived when the present restrictions on export should be removed. There was at the end of October a very large stock of tea in bond, *viz.*, nearly 160 million lbs. and, within the next two or three weeks, steamers containing some 40/50 million lbs. are due to arrive in the river. Apart from this the cabled exports from Northern India alone, for the first fortnight of November, amount to no less then 42,960,000 lbs.

My Committee, therefore, respectfully urge that the question of the removal of the present restrictions may be fully considered by the Board of Trade. It is to be remembered that a good export demand has always been a big inducement to growers to ship their teas to this country, and, in view of the above figures, there appears to be no reason why there should be any fear of a shortage of tea in this country.

It is further understood that all restrictions upon the export of coffee from this country have been removed as from the 26th November, and my Committee feel that the present stringent regulations on the export of tea should not remain in force while coffee is free.

SCHEME FOR THE EXTENSION OF THE SCIENTIFIC DEPARTMENT.—It was explained in the proceedings of last meeting that a circular in this connection was under preparation, and would shortly be submitted to the Committee. The draft had since been completed, and it was now in course

of circulation to the Committee. It was noted that so far its terms had been approved, and the Committee directed that it should be continued in circulation.

THE INDIAN SUGAR COMMITTEE.—In a letter dated 17th December, the Secretary, Indian Sugar Committee stated that the Committee proposed, during its tour in Assam, to discuss informally with local representatives of the industry a suggestion made by the Director of Land Records and Agriculture, Assam, that sugarcane might be grown on available areas in tea estates. The question had been raised some years ago, the idea being that a garden would, on some of its acreage not used for tea, grow sugarcane for sale to a central factory established either on co-operative lines or as a proprietary concern; it was pointed out that the busy season of tea coincided with the slack season for sugarcane cultivation, and *vice versa*, so that there should not be a heavy demand for extra labour. Enquiry was made as to whether the Association would be disposed to nominate representatives to discuss the matter with the Sugar Committee, and the 15th January was suggested as the date when a meeting for this purpose might take place.

The Committee decided after discussion to nominate the Chairman and Mr. A. D. Gordon to meet the Indian Sugar Committee.

THE NORTH OF SCOTLAND COLLEGE OF AGRICULTURE, ABERDEEN.—There had been received from the Secretary of this College, copy of a prospectus of special classes given during the year, including a course of instruction for the Planters' Certificate awarded by the College. There had also been received some copies of the similar prospectus for the classes to be given in May and June, 1920, and it was mentioned that copies had been distributed to the agents of a number of tea companies; in forwarding these papers the Secretary asked that copies of the latter prospectus should be distributed among the branch and local Associations, and the Committee directed that this request should be complied with.

PREFERENTIAL RATES OF CUSTOMS DUTIES IN THE UNITED KINGDOM IN FAVOUR OF EMPIRE PRODUCTS.—Circular No. 47, dated 14th October, 1919, issued for information particulars in connection with the form of Certificate of Origin to be attached to shipping documents to enable the home importer to claim the preferential rebate from import duty granted in the case of British-grown teas. The following telegram, dated 24th December, had been received on the subject from the Indian Tea Association (London): –

"61. Some teas now arriving without Certificate of Origin. Arrangement has been made with Customs allow preference on such teas on production bills of lading, invoice, but absolutely imperative all shipments on or after 15th day of January have attached Certificate of Origin."

Copies of this telegram had been sent for information to all members of the Association—Circular No. 1, dated 2nd January, and to the Calcutta Tea Traders' Association, and it was now to be recorded.

OCEAN FREIGHT AGREEMENT—TEA RATE FOR JANUARY.—A letter dated 5th January, had been received from the Bengal Chamber of Commerce giving particulars of the calculation of the tea rate for January. It was noted that the rate was £9-1-3. The Committee directed that the usual circular should be issued to members for information, and that the London Association should be informed of the rate by cable.

ASSAM BRANCH.—The proceedings of the 30th Annual General Mseting of the Assam Branch, held on 15th November, 1919, were to be recorded.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE of "A" Coffee.

(BY CABLE.)

LONDON, 30TH JANUARY, 1920.

165*s*/- *per cwt. Market firm.*

CO-OPERATION.

The recent rise in the rate of exchange gives further emphasis, if such were needed, to the necessity for co-operation in all walks of life if industry in India is to maintain its footing in the world's economy. A little while back some not very edifying correspondence was published in the Madras Dailies which, on one hand, strove to prove that the charge of profiteering levelled against Madras firms was unfounded. However this may be, it is an undisputed fact that prices are far higher than conditions would seem to warrant, and, if the Madras firms are not profiteering, some one else is, and the consumer, as usual, pays. We have no desire here to enter into details and point out how and why the planters' jam is costing more, it is enough to agree with the dictum of Mr. Abbott who, in his Annual Report of the Wynaad Planters' Association, points out that everyone we employ, grain-sellers, coolies, cartmen and contractors, are profiteering at the planters' expense. To this we may also add that we also employ those philanthropic firms who supply us with a two-guinea pair of boots for the remarkably low price of Rs. 37-8-0, but Mr. Abbott's main point was that we must avoid waste, and the great sovereign remedy for waste is co-operation.

Co-operation is in the air. It is certainly the enemy of high prices, and as such should be encouraged in every way, but it is not of much use going in for half measures. One hears, for instance, of Co operative Societies on a small scale, which do not seem to know the difference between co-operative buying and co-operative selling. The result is that the Society merely takes the place of the shop, the middleman is not eliminated, and the whole concern develops into a Co-operative *Credit* Society, of which the benefits to members is doubtful.

The Registrar of Co-operative Societies has furnished the Director of Agriculture with an account of the working of the South Canara Garden Planters' (Arecanut) Society for the year 1918-19, and we are indebted to Mr. R. Cecil Wood for the opportunity he has given us of publishing for the information of our readers this interesting document. It shows what can be accomplished by a few people co-operating for the purpose of placing the fruits of their labour to the best advantage, and, *vice versa*, for the purpose of purchasing domestic supplies wholesale.

The South Canara Garden Planters' Wholesale Co-operative Society, Ltd., did immensely good work, says the Report, for the garden owners who became members. It is the first society of its kind in this section. It commenced work in October, 1918, under good auspices. It has 194 members and a paid-up share capital of Rs. 11,825. The borrowings at the end of the year amounted to Rs. 24,168. Rs. 49,465 were lent to the members to meet their urgent needs. Besides this, a sum of Rs. 111,751 was also advanced to members on the security of goods supplied by them, to enable them to withhold the produce until better price was secured. These latter advances are recoverable as soon as goods are sold. 44,735 maunds of arecanut, 623 maunds of pepper, 1,231 maunds of copra, 555 maunds of cardamoms, 2,037 maunds of coffee seeds, and small quantities of other minor forest produce were jointly sold on commission. The sale proceeds amounted to Rs. 3,84,803-1-6. The goods are reported to have been sold at the market rate, as the wholesale dealers at Mangalore did. After deducting Rs. 2,134-9-11. being the charges and Rs. 2,758-3-4, being the commission on goods sold, the Society held Rs. 3,79,910-4-3, as sale proceeds for distribution among the members who supplied their produce to the Society. The estimated savings to the members by this transaction for the year amounted to Rs. 19,658-4-0, which represents the share of the middleman and merchants, whom the Society has supplanted. In addition, the Society undertook the joint purchase of the domestic requirements of its members, such as horsegram, jaggery, oil-cakes, salt, kerosene oil, tiles, bricks, cutlery and other articles, valued at Rs. 7,692-13-11, and earned a commission of Rs. 8,667. If, instead of purchasing them through the Society, the members had purchased them from the shops in retail, it would have cost them Rs. 9,041-7-0. It is thus obvious that the amount saved by this transaction is Rs. 1,348-9-1. The net profit earned by the Society was Rs. 519-1-7. This would have been much more had it not been for the heavy initial expenses that the Society had to incur.

Such is the record, of which, we must admit, the promoters have every reason to be proud. The amount actually saved by the dual transaction of buying and selling reached Rs.21,006-13-1, which, for 194 members, gives an average saving in one year of nearly Rs. 110 per head.

With these figures before our readers, the moral of this article becomes a matter of simple arithmetic.

THE SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Injection of Trees.

In these days, when so many human diseases are prevented or cured by means of inoculations and injections, it is often asked why the same line cannot be followed for plant diseases. One of the great difficulties in the way is, of course, the difference in circulation. In the case of an animal, there is a rapid circulation of blood, so that anything introduced into it in a very short time reaches every part of the body. In the case of plants, there is nothing of that sort, and the transfusion of sap from cell to cell is a slow process. The most likely way in which to get a foreign solution into the tissue of a plant is to make the roots absorb it in the form of a solution in water. Another difficulty is that, in the case of fungoid diseases attacking the internal cells of a plant we are trying to kill a plant, of another kind it is true, but still a plant, and so any drug introduced, if of sufficient strength to kill the parasitic fungus, is quite as likely to kill the host plant too.

However, attempts have been made to inoculate plants against fungus diseases, but the results have not been promising, nor have any arrived at a stage which has merged from the scientifically interesting into the realms of practical usefulness.

Of recent years, a serious disease of fruit trees has made its appearance in England known as the "Silver leaf disease." This disease is somewhat mysterious, and for a long while puzzled the scientists much in the same way as Brown Bast of rubber does. It was at one time thought to be a physiological disease, but it is now agreed that it is really due to the presence of a definite fungus.

Attempts have recently been made to treat this disease by means of injecting antiseptics of various kinds into the tree.

Sulphate of Iron was first tried, both by means of plugging it into the stems and as a dressing to the roots. This, however, failed. Many years ago, a similar treatment was tried with coffee in North Mysore, the disease then attacked being Root Rot. All attempts ended, however, in failure.

The trees were next injected with Neosalvarsan (606) by boring holes in the stems near the base and introducing a small quantity of this drug in solution, and then closing the holes with plasticine. This was so far successful in that it killed the fungus, but, at the same time, it killed the fruit tree or, at any rate, a large part of it.

The most success has been obtained by making the trees absorb certain aniline dyes through their roots, which are cut and dipped in solutions of the dyes. The recoveries in these experiments were more numerous than have ever been observed to occur naturally, and it is likely that some, at any rate, were due to the dyes acting toxically on the fungus without seriously affecting the host tree. At present, however, these results are merely of scientific interest, and until treatment of this kind has been applied on a large scale, much importance cannot be assigned to it. From the practical point of view, nothing can be done at present along these lines, as the methods used in the experiments were far too troublesome and costly. All that can be said is that, if certain of these dyes could be obtained at a cheap rate, modified methods of injecting trees attacked internally by fungi might be tried with some prospect of success. We are a long way yet from being able to hope to inject a rubber tree for Brown Bast, or a tea bush for Root disease.

Drainage and Cattle Manuring.

With reference to Mr. Anstead's article dealing with the subject of drainage in the *Chronicle*, Vol. XV, page 22, a coffee correspondent tells us that, when he has the labour to spare, he cuts drains 2 to 2½ feet deep, and fills these loosely with *round* stones within six inches of the top, the top six inches being filled in with earth so that feeding roots may grow in it if they like. He finds this system preferable to open drains, which soon get filled in with leaves and earth. This would appear to be a very excellent system.

The same correspondent sends us a useful note on cattle manuring, which he is one of those fortunate enough to be able to do from a big herd of cattle. In old days, it was the custom, he says, to apply cattle manure in eyebrow pits directly above the trees (and close to the stems, we shrewdly suspect, for we have seen it being done). He now adopts the system of cutting a pit 18 inches square and 6 to 8 inches deep between each four coffee trees, and putting into this a basket or two of manure, mixing it up with earth and treading it down. He says that, if such a pit be opened in six months' time, it will be found full of coffee feeding roots, and he finds the system most successful and profitable.

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

DISTRICT PLANTERS' ASSOCIATION.

Nilgiri Planters' Association.

At a meeting of the Nilgiri Planters' Association, held at the Collector's office on Thursday, the 29th instant, the following members were present:—Messrs. J. B. Vernede [in the chair], Sir Robert Stanes, Sir Fairless Barber, A. S. Dandison, St. John Ives, J. B. Leslie Rogers, G. F. W. Elwes, George Oakes, N. Grey, W. Cherry, L. F. Lake, Brown, C. Vernede, N. J. Stanes, Reilly, Hercus, E. E. Limouzin, Hayne, Bake, Hawke, and A. K. W. Downing, Honorary Secretary.

Visitors.—Messrs. Waddington, Stonehewer and Birley.

PROCEEDINGS.

The proceedings of the previous meeting were taken as read and confirmed.

GRAIN AND KEROSINE OIL.

Considerable time was spent on the question of rice.

Mr. F. Birley, of Messrs. Best & Co., Ltd., was present and thanked the meeting for giving him an opportunity of explaining, on behalf of his firm, the considerable misapprehension that prevailed as regards the supply of rice to the Nilgiris.

In the first place Messrs. Best & Co. had never intended to establish a monopoly, and even if they had such intention they could never have done so. The Director of Civil Supplies not only controlled the cost and selling prices of all rice, but he also gave Best & Co., in common with all other importers, detailed instructions with regard to the disposal of all rice, either imported or purchased in India. If the Director of Civil Supplies instructed Best & Co. to consign rice to the Nilgiris, Best & Co. had no option but obey the Director's orders. Best & Co. had nothing to gain by supplying the Nilgiris in preference to any other district.

Once the District allotment was fixed by the Director of Civil Supplies, the onus of distributing the rice lay with the Collector and his nominees.

In the first place these nominees consisted of certain grain merchants who, at one time, refused to accept the monthly allotment which the Collector considered necessary. The Collector then asked Best & Co. to undertake the retail sale in Ooty and Coonoor. This was done, but in spite of the fact that rice was constantly exposed for sale at these depots at prices equal to or cheaper, quality for quality, than that sold by other retailers, Best & Co's. retail sales were practically nil, but the depots were continued at the request of the authorities, as being the most efficient means of controlling prices on the Nilgiris.

As regards the quality of the rice exposed for sale, this was boiled milchan Burmah rice, thousands of tons of which had been imported into the Presidency during the past year by various importers, and there had been no complaints with regard to the quality of this rice. When the Municipal Council passed their resolution condemning the rice as "unfit for human consumption" there were only thirteen bags left in the depot, and this was sold on the following day, as B. & Co's. store-keeper had received no instructions to stop sale. Nor were any complaints as to quality received from the purchasers. So much for the Municipal Council's resolution.

When the present situation arose, the Collector asked Best & Co. to send 800 bags as a reserve stock and 600 bags for immediate sale. This Best & Co. promptly agreed to do, providing they could obtain the rice, and such meagre supplies as were obtainable have been despatched from time to time. Now that free supplies of new crop Burmah rice may be expected, no difficulty is anticipated in keeping the Nilgiris supplied, but, as to whether the rice is sent by Best & Co. depends entirely on the Director of Civil Supplies, who may order any importer to supply against the Nilgiris allotment.

Mr. Chatterton then explained the situation, and stated that a fair quantity of rice was on its way, and that very shortly the situation would be relieved, but that, for the past few days, the situation was both anxious and serious. Messrs. Best & Co. had been selling at $6\frac{3}{4}$ measures the rice they had in stock, and he was very thankful to that firm for helping to relieve the situation.

Mr. Downing then moved that the Collector should be addressed with a view to the Planters' Association having a consignment of rice sent to it direct. The following resolution was then passed unanimously :—"That this Association request the Collector to assign a certain portion

of the rice supply to the Nilgiris to the N. P. A., and, further, that he ask the D. C. S. to allow this portion to be supplied by Messrs. Best & Co., for delivery to Stanes & Co., Coonoor."

Ragi.

The Council then considered the question of the ragi supply, and both Messrs. Downing and Dandison strongly resented the remarks in the Collector's circular, which gave the impression that the Association, as a body, had been neglectful in the matter of importing ragi into the district. As a matter of fact, three members of the Association had advanced Rs. 30,000, and had for nine months helped the situation.

As regards the future importation of ragi, the following resolution, proposed by Mr. Elwes and seconded by Mr. George Oakes, was carried unanimously:—

"Resolved that, as the Association is not willing to take up the suggested allotment of 100 tons, members wishing to take any part of it should make their own arrangements with Mr. J. S. Nicolls.

Pentland Portrait Fund.

In this connection a list was circulated, and the members noted thereon the amounts they were willing to subscribe.

Roads and Communications.

The meeting objected to the following notification, issued by the President of the District Board:—

"As the District Board roads are narrow and are not constructed to carry motor lorry traffic, the public are hereby prohibited, without the express permission of the President in writing, from using motor lorries on the said roads.

Nothing in this order shall apply to the motor lorries of His Highness the Maharajah of Mysore who has promised to carry only half-loads."

In the absence of the Collector, Mr. Chatterton gave members present the information they required, from which it was apparent that Colonel Ward considered that light lorries did much more harm to the roads than carts. The sense of the meeting was that carts did more damage than light lorries.

Sir Fairless Barber considered the prohibition was illegal, and asked for the authority under which it was issued.

It was shown that the order was dated three days before the last meeting of the District Board, and that it had neither the sanction of the Board nor of Government.

Mr. Oakes pointed out that, in consequence of this notification, he had to cancel two contracts, one with Coimbatore and one with the postal department, to run motor lorries to Pandalur *via* Gudalur. He was of opinion that the 1½ inch cart wheel did more damage than motor lorries of the description.

Mr. Chatterton further, in answer to questions, stated that Messrs. Tata & Son had been informed that they would have to strengthen the bridges in the district before they took heavy machinery across.

Members then thought that they were going backwards, and that the means of communication seemed to be better in the days when machinery was carried to the Wynaad for gold mining.

The following resolution, proposed by Mr. Downing and seconded by Sir Robert Stanes, was carried unanimously :—

"This meeting, finding that the notice issued by the President, District Board, is illegal, advises its members that there is no objection to their using motor lorries on the roads as heretofore.

PLANTERS' BENEVOLENT FUND.

In this connection, after hearing Mr. Waddington, the meeting resolved that any subscriptions promised to this fund be collected along with the annual subscription.

LABOUR ACTS.

In the matter of the repeal of the Labour Act, the following resolution was put from the chair and carried unanimously :—

"That this Association leave it to Mr. Dandison to act as he considers best in the interests of the Association."

BEER SHOPS.

The meeting noted, with satisfaction and thanks, the decision of the Collector and Excise Committee that beer shops should be closed in Coonoor Town on Sundays and Thursdays, and that the beer shop at Kateri was to be closed.

SIR ROBERT STANES.

The meeting passed a vote of congratulation, with acclamation, to Sir Robert Stanes on the honor that had been conferred on him, and Sir Robert Stanes thanked members for same.

VOTE OF THANKS.

With a vote of thanks to the Collector the meeting terminated.

(*South of India Observer.*)

A FEW HINTS ON LABELLING IN EXPERIMENTAL STATIONS.

In the *Agricultural Journal of India*, Vol. XV, Part I., Mr. T. S. Venkataraman, Acting Government Sugarcane Expert, Coimbatore, has an interesting article under the above title. A few copious extracts will, we hope, prove useful to Planters, particularly in these days when few estates are devoid of experimental plots. These plots mainly relate to manuring, tapping, spacing, etc., and should, therefore, be more easily tabulated than those, like the Cane Breeding plots, which relate to a large number of varieties.

The difficulty, in Planting Districts, of efficiently labelling experimental plots, is of course the need for absolutely water, sun and white-ant proof labels. The ordinary dealwood stencilled board requires constant renewal, and even with the most careful watching the similarity of stencilled figures like 3 and 5, for example, becomes bewildering and liable to cause serious mistakes when a trickle of rain is sufficient to convert one into the other. This is probably the reason why on most estates one sees just simple boards denoting the number of the field, which consequently needs constant reference to the plan in the office, but, if we go on like this, we shall be reproducing Mr. Venkataraman's points twice over. If we read "Estate" for "Farm" in the following, it will be seen how similar are

the conditions on estates with those outlined by the Sugarcane Expert. He says :—

> "In every farm where experimental work is being carried on, a quick, "cheap and efficient system of labelling is often of very great im- "portance. Occasionally one comes across farms where there are "practically no labels in the field, and the officer in charge has to "unroll, each time, a parchment scroll in which the plans of plots "and other details are fully entered up. Besides the waste of "time involved in the process, the visitor, especially if new, "always feels some uncertainty that, in the particular instance, "the plan has perhaps not been correctly interpreted with refe- "rence to the plots.
>
> "The ideal would appear to be to give in the labels as much infor- "mation as possible. This will enable the visitor to obtain a "general idea of the nature of the experiments being carried on "without much help from the staff, who may not be always "available. Again, the members of the staff would be enabled "to form certain ideas as to the various plots without always "having to carry with them bulky notes and diagrams. It is a "matter of common knowledge that, while taking an evening "stroll along the plots, certain ideas force themselves on one's "attention much more readily than when the plots are examined "with the idea of "study." On such occasions the use of plot "labels with full details is obvious. Owing to the very large "number of varieties that are planted at the Cane Breeding Station "each year, of late we have been planting as many as 2,000, the "need was felt even from the outset for a cheap and efficient "system of labelling. In fact, it is felt that the absence of an "efficient system of labelling has been a fruitful source of "mistakes in naming in the past. It was further found that the "requirements at the Cane Breeding Station were of a varied "character, and different types had to be evolved to meet all "the requirements."

We must here interpret the writer of the article as we cannot, unfortunately, reproduce the photographic plates to which he refers. It appears that one of the earliest types to be tried was a label consisting of a piece of dealwood from an old packing case, thinly coated over with white paint and nailed to bamboo or iron uprights. They are easy to write over with pencil, and retain the impressions fairly well for over a year. They can be used over and over again by merely cleaning the surfaces—occasional sand-papering or planing being required in cases where the surfaces are badly injured, and recoating with white paint. One label, we notice, has a zinc hood over it to prevent birds perching on the top and disfiguring the label surface with droppings. These labels would be quite suitable for plain numbering, but the point of this article is the necessity for entering on the labels a certain amount of detail, which led to the introduction of a system of plot labels, which have been found to be of great use at the Cane Breeding Station. Mr. Venkataraman says :—

> "In examining each plot of seedlings, for instance, it was felt that it "would be a great convenience to have in the field a plan of each "plot together with a certain amount of information about the "parents. Reference to lists or papers, while in the field, is "cumbersome, and liable to miss out important details. The "labels when laid down give an exact plan of the plots against "which they are placed. These labels are prepared in the fol-

"lowing manner. The label is first written with pen or pencil "on thin mounting paper, or thin card-board, and subsequently "dipped in melted paraffin. The pen is not so easy to write with "as pencil, but the labels are much clearer. White paraffin wax "135-140° F. is quite suited for the purpose. The labels should "be dipped in paraffin which has been melted for some time, "and taken out almost immediately. The right temperature is "soon learnt by experience. If too hot the label comes out "brittle, and if not quite fully and uniformly melted the paraffin "shows a tendency to stick to the paper in odd patches. To "economise the quantity of paraffin, and to avoid the labels "having to be bent at the time of dipping—if thus bent the labels "show a tendency to return to this shape for a time—it has "been found useful to employ a tin vessel shaped according to "the sketch in the margin," (*i.e.*, similar in shape to the label, a narrow upright tank in fact instead of a flat dish.—ED., P. C.).

"Such a vessel, with pieces of solid paraffin in it, is immersed to "below its mouth in a bucket of water brought almost to "a boil. This melts the paraffin inside the tin vessel and keeps "it in a liquid condition for a fairly long time.

"The labels, after treatment with paraffin, are fixed to label boards "by means of eyelets and copper tacks. Iron tacks are not "satisfactory, as they soon rust. These labels are not affected "by sun or rain, and can easily be washed with soap and water "if they get soiled with mud or dirt. Occasionally, during close, "moist weather, ring-shaped outgrowths (probably fungus) are "seen, but these are easily kept out by occasional cleaning with "dilute copper sulphate solution. In the preparation of these "labels the cost of paper and paraffin is only nominal..... "In the earlier stages of germination, sugarcane seedlings require "to be watered sometimes as often as six times during the day. "The quality of being unaffected by water has made these "paraffined labels very useful for the purpose and they are very "cheap, costing less than an anna per hundred. The need "often arises to hang, against wall surfaces, plans, tables, charts "or notices of a permanent nature, and in such conditions the "silver-fish is very troublesome, frequently eating them so badly "as to make them useless for reference. In two examples, "hanging against a wall, side by side, for over three years, the "effect of paraffining (as shown by No. 2) is very striking. "Though it first appears simple, yet the position of the label in "a plot is of some importance. In many of the farms the label "is placed in the centre of the variety to which it refers, and it is "often difficult to say where one variety ends and another "begins. At the Cane Breeding Station the label is always fixed "at the left hand bottom corner of each plot."

It will be seen from the foregoing how easy and cheap it is to have one's experimental plots labelled in such a manner that, when the V. A. comes round, he can see at a glance from the detailed information on the paraffined paper exactly what is going on, and the superintendent is saved the necessity of guessing the contents of mixture "B" in plot "A" and how it was applied, information perhaps relating to work done by his predecessor, and known to him only from the cultivation book in the office

INTERNATIONAL ASSOCIATION FOR RUBBER CULTIVATION IN THE NETHERLANDS INDIES.

Every rubber planter is interested in the Dutch Scientific Departments, which have turned out so much useful work in recent years. By the same token, the following article from *Hollands East India* will be read with interest giving, as it does, figures relating to acreage and yields, with the stamp of authority.

This Association was established in 1913 at The Hague, Holland, by 93 members, of which 61 were companies and 32 individual members.

Now the number of members includes 152 companies and associations and 50 individual members. Of these 152 companies, which represent together a paid capital of *f*280,000,000 there are

69 with chiefly Dutch capital
65 with chiefly British capital.
18 with capital of other nationality.

The Association looks after almost all Dutch interests with the rubber culture and, as may appear from the great number of joined British associations, the interest of the British capital which is concerned with the rubber culture are taken to heart by the above mentioned international association.

The war made the task of the association very heavy, especially, the international work was made very difficult. Notwithstanding all that, the association could do much for the members. When at the outbreak of war a crisis was threatening which could have had serious consequences, the association, in co-operation with the Indian Government, succeeded in taking the necessary precautions in order to tide over the difficulties. Several companies were strongly supported by these precautions, also, during the last war year, when, in consequence of suspension of shipping again a crisis in the rubber-cultivation was threatening, the council of the association prepared again precautions, which would undoubtedly have brought a decisive change for the better in the situation, if the finish of the world-war had not made it fortunately superfluous to carry these measures into effect.

Now, the labour supply in Sumatra and Java, the so-called war profit-tax and the shipping of the rubber have the particular attention of the council of the association. Also, in a scientific way, the association has performed useful work. Initiated by her, an English translation has been published of the "Communications of the Netherlands Government Institute for the advice of the Rubber Trade and the Rubber Industry," by Prof. Dr. G. van Iterson and Dr. A. van Rossem. This work has met a deserved appreciation in expert circles, at home as well as abroad. Indirectly the association supports scientific investigations by means of financial contributions to the rubber stations, etc.

Now the war is finished, hearty and firm work is expected hand in hand with the Rubber Growers' Association and the again reviving "Association des planteurs de caoutchouc."

From the fifth annual report, as well as from the inaugural address of the chairman, Mr. A. G. N. Swart, L. L. D., in the general meeting, it is apparent that the council of this association conceives its task very seriously and, if necessary, always is (? ready) to stand in the breach for the interests of the members. Certainly, the self-interest of those who have plunged their capital in Rubber Estates in the Dutch East Indies, requires to join the "International Association for Rubber Cultivation in the Netherlands Indies".

The managing board is now constituted as follows :—

A. G. N. Swart, L. L. D., Chairman.

J. F. de Beaufort, Ed. Bunge, W. O. Burt } Vice-Chairmen.

M. Sanders ... Treasurer.

P. van Leeuwen Boomkamp, Joost van Vollenhoven } Members.

The following is taken from the annual report :—

The total area planted with rubber at the end of 1917 (the documents relating on the year 1918 were not yet received) may be estimated as follows :—

In Java	120618 H. A.	=	298,000 acres.
In the other islands (Sumatra, Riouw, Borneo and Celebes)	174403 H. A.	=	430,776 acres.
Total	295051 H. A.	=	728,776 acres.

The area on the East Coast of Sumatra and Achin amounted at that time to 137397 H. A. = 339,370 acres, of which 77,202 H. A. = 190,689 acres were under tap.

The production of plantation rubber amounted to :

for Java.....	18933000	K. G.	=	41,652,600 lbs.
for the East Coast of Sumatra and Achin.....	22218866	,,	=	48,881,505 ,,
for Tapanoeli	1188091	,,	=	2,613,800 ,,
for the other islands.....	6225000	,,	=	13,695,000 ,,
Total	48564957	K. G.	=	106,842,905 lbs.

The world's production of plantation rubber amounted to :—

for the year	1913	47,618 tons.
Do.	1914	71,380 do.
Do.	1915	107,867 do.
Do.	1916	152,650 do.
Do.	1917	213,070 do.
Do.	1918 ,, ,,	200,950 do.

The total capital invested in rubber-growing in the Netherlands Indies is estimated by the council on December 31st, 1918, at ƒ368,000,000, other authorities have published estimates which surpass this total by a considerable amount.

As rubber-growing is carried on on many estates as a secondary cultivation, so that, by way of speaking, there is in Java, apart from the sugar and tobacco plantations, hardly any estate where rubber planting is not more or less indulged in, and, as in Sumatra the big tobacco estates apply themselves more and more to rubber cultivation, it is hardly any longer possible to arrive at a somewhat trustworthy estimate of the capital invested. Roughly estimated, the total of such capital on December 31st, 1918 is 400 to 450 million guilders, of which the largest part is for account of foreign countries. Whereas the participation of English, French, Belgian, German and Swiss capital has not been altered to any extent during the war, the American interests, on the other hand, have considerably increased. It is also worth stating that Japanese capital has interested itself in rubber growing recently, by buying a few estates in Java and Sumatra.

According to the last published statistics, the export in metric tons from the Netherlands Indies amounted to

in metric tons:—

	Java.	Other Islands.	Total.
1914 ...	3,812	6,782	10,594
1915 ...	7,517	12,692	20,209
1916 ...	13,937	19,384	33,321
1917 ...	18,959	24,641	43,600
1918 ...	17,000	26,000	43,000

Of these quantities the following was shipped to:—

	1914	1915	1916	1917
Holland ...	2,820	2,221	nil	nil.
England ...	4,336	7,040	8,206	5,996
America ...	555	5,891	15,769	28,906
Singapore, Penang, Japan, &c.	2,883	5,057	9,346	8,698
Total...	10,594	20,209	33,321	43,600

During last year no new diseases appeared in the Hevea rubber plantations. The only diseases with which rubber-growing has still to fight are cancer (Phytophthra Faberi) and white-root-disease (Thyridaria tarda). Combating it in a final way still remains possible.

A FIXED DOLLAR.

(*Malay Weekly Mail.*)

The removal of uncertainty regarding the dollar will be received by most people with a feeling of relief. The Imperial Government is hardly going to borrow fifty million dollars at 2s. 4d. and pay them back at three shillings or 3s. 6d. Neither could it very well lower the value of the dollar after floating a Victory Loan. So now we know where we are. There will be no change in the sterling value of the Straits dollar for fifteen years. We have to make up our minds to face dear rice and a high exchange for an indefinite period. Labour problems can now be tackled with a degree of certitude hitherto lacking. With the Chinese labourers we need not concern ourselves. There is no Chinese immigration scheme here, nor is there ever likely to be. The Chinese labourers in the Malay States come here of their own free will and accord, and they are perfectly capable of looking after themselves. To quote, the Hon. Mr. E. Macfadyen, "the Chinese, when circumstances justify it, demand a rise—and get one. Assisted by the shortage of Chinese due to shipping and other restrictions during the last 5 years, they have demanded a rise of over 50 per cent. and have got it." The Tamil labour force, however, presents a problem. And planters will be glad that the question of the dollar has been settled before next week's meeting of the Planters' Association of Malaya, when certain resolutions of the Standing Committee dealing with the exchange rate on remittances, increase of daily rates of pay and the supply of rice to labourers below cost price will come up for discussion. Mr. Macfadyen, in our recent interview with him, expressed the opinion that the effect of a high exchange upon the labour position was often exaggerated. "Exceptional coolies (he said) pinch themselves to save, but the majority go in for a much higher standard of living here than in India, and spend fairly freely. If you were to assume that 15 per cent. of all the wages drawn here find their way to India, I believe you would be making a liberal estimate." Some ten or more years ago, Mr. R. W. Harrison, who was then Chairman of the P. A. M., declared that the Tamil cooly made so much money that he invariably returned to the Coast after two years. Could he have been persuaded to remain one more year, the labour force would have been increased by a much-needed 50 per cent. But all attempts to induce him to do so were unavailing. Times change, and we change with them. Mr. Macfadyen knows what he is talking about. Apparently, the modern Tamil cooly has been bitten by the 20th century craze for having "a good time." This fact, of course, should assist the labour position. We do not know where Mr. Harrison obtained his statistics. But it would be interesting if the corresponding figures for recent years were available.

The Standing Committee of the P. A. M. considers it extremely advisable, in view of the future successful recruiting of labour from India, that all estates in Malaya agree to allow an exchange rate of Rs 175 per $100 on all *bona-fide* remittances by labourers to their relatives in India for the current year. They do not think that it is at present necessary to increase the usual daily rates of pay, but they favour the continuance of the practice of supplying rice to labourers below cost price. Presumably, they do not support the idea of consolidation of pay, rice allowance and compensation for exchange and

increased cost of living, as envisaged by Mr. Macfadyen in the interview referred to. To our mind there is a good deal to be said for the consolidation proposal. We are faced with increased and increasing competition in the labour market. Official requirements with regard to labour will become more and more exacting. Unofficial criticisms will always be with us. Let us then blow our own trumpet and make the most of our virtues. Planters, during the next year or two, should concentrate their attention upon the conditions under which the coolies are recruited and live and have their being. It should be their aim to eliminate every ground of complaint which could be seized upon by an over-zealous official or an interested agitator. Everything which gives a handle to the Philistine should be "sunk without trace."

NOTES AND NEWS.

The Rubber Growers' Association.

The Secretary, U. P. A. S. I., draws our attention to the Rubber Uses Development Fund, which has been inaugurated by the Rubber Growers' Association (Incorporated) with a view to starting a prize scheme for ideas and suggestions for extending the present uses, or for encouraging new uses, of rubber. Up to the present the donations and promises amount to £ 7,500. This support is conditional on a minimum of £10,000 being raised, and there is, therefore, a balance of £2,500 still to be subscribed before the fund can commence operations. We notice in the list of donors a fair sprinkling of South Indian Companies, and any further companies or persons desirous of contributing can obtain all particulars from the local secretary, who is also open to receive subscriptions. The Rubber Association of America (Incorporated) has appealed to its members through its Executive Committee to subscribe to the fund, and it is hoped a good result will accrue.

Coffee for the Greek Government.

We understand that neither Mr. Chadwick, Indian Trade Commissioner, nor Mr. Brooke Mockett have had a reply from the Greek Government to their enquiry as to whether the Greeks wish to buy any East Indian coffee this season. Mr. Mockett, therefore, concludes that they do not intend purchasing.

Statistics.

The Director of Statistics, Calcutta, referring to the forms for the collection of Tea Statistics, states that it has been brought to the notice of the Government of India that, in calculating the daily average number of persons employed in the industry, the total statistics should be divided by 300, instead of by 365, as stated in the foot-note, since no cooly works for more than 300 days in a year. The Government of India having approved the suggestion, notice has been given accordingly, and the figures 300 and 32 may be substituted for 365 and 26 respectively in the foot-note to the forms in question.

APTERITE.

This useful soil disinfectant, which has been used with so much success in Coorg and Mysore to protect young coffee supplies from the attacks of cockchafers (*Vide* P. C., Vol. X, Page 209) is again available, and the Deputy Director of Agriculture, Planting Districts will be glad to answer any enquiries. The product is also useful in vegetable gardens for straing insects like cut worms, beetle grubs, red ants, etc.

CEYLON TEA.

Extract from the *Ceylon Chamber of Commerce* Weekly Price Current showing particulars of tea railed to various destinations from Colombo for the two weeks ending 26th January, 1920.

	lbs.
Tellicherry	3,905
Ramnaad	189
Cannanore	1,980
Calicut	2,500
	8,574

MARKET REPORTS.

We are without our usual advices from London this week, as we go to press a day before the mail is due. We are glad to be able to publish, however, Messrs Leslie and Anderson's report, dated 8th January, which is most interesting, and is therefore given *in extenso*. Rubber planters will particularly be interested in the remarks they have to offer concerning the recent failure of a firm of dealers in London. The *India Rubber Journal's* correspondent, " Macson," has also something to say regarding this smash, which he estimates, as will be seen from the following, involves as much as £1,000,000 to £1,200,000 sterling.

" Macson" writes :—

Our market has gone through a period of great excitement. There was a heavy defaulter leaving brokers, who guarantee the solvency of their clients, with a " short " account of several thousand tons for deliveries spread over December, 1919, January to December, 1920, also 1921. There was also some 1920 godown East short sold.

The market was therefore badly short, and those who had rubber to sell asked a high price, some of the shorts paying up to 3s. per lb. At the close, however, prices were much below this figure.

The high prices attracted speculators to step in and carry the risks.

Consumers withdrew from the market, not wishing to drive prices higher than need be.

The brokers themselves will probably carry some of their short sales, and not cut their loss at once.

Also the price in New York was lower than in London, and a holder in London could let go here and recover there at less money.

These conditions have all done something in the way of stopping a little panic and preventing a very serious rise in prices. As it is, the amounts involved are one million, to be brought up to one million two hundred thousand pounds sterling.

Messrs. Leslie and Anderson, writing under date the 8th January, say:—

COFFEE.—There has been a better general enquiry all round, and the first auctions of the year went with a good tone. Some bold greenish New Crop Costa Rica's sold at 150/- per cwt., which approaches the highest prices paid last year. Values in Brazil are upwards of 10s. per cwt. dearer than before the holidays, and the statistical position there continues strong.

It is impossible to obtain offers on c. f. i. terms at a parity of your values, but it does not follow that we shall not get good prices for the East India Crop when it arrives.

PEPPER.—The market has opened this year with a very firm tone and, despite our large stocks of Singapore Black, buyers have to pay 11¾d. per lb. on the spot. There is very little offering from the Far East. We quote Tellicherry Black 1/1½d. per lb. on the spot.

CARDAMOMS.—The market for cured description continues firm, with a good enquiry according to quality. We could still probably sell Bold Creamy Mangalores over 6s. per lb.

RUBBER.—Our market has been subject to violent fluctuations during the past week. Values advanced roughly 3d. per lb. for Standard qualities, but have since declined 1½d. per lb., closing this morning at 2/9¼d. for Standard Sheet and 2/9 for Standard Crepe. The advance was mainly due to "Covering." As you will have heard, no doubt, a firm of dealers have failed with estimated liabilities of £500,000. The firm had a large "bear" account, and brokers buying in against contracts caused last week's high prices. The demand for other descriptions has been good, with the exception of very mildewed smoked sheet, which has been practically unsaleable except at a reduction of 1½d/2d. per lb.

The sharp decline of 1½d. per lb. for Standard grades, yesterday, we put down to a natural reaction, this has brought our market into line with the Eastern and New York markets, and the tone is already better.

There are buyers now of soft Standard Sheet at 2/9¼d.
Crepe 2/9 Jan /June delivery, Crepe and Sheet, value 2/10.
July/Dec. delivery do. do. 2/10¼
Godown Singapore value 2/8d. per lb.
Stocks:— Imported 2058 tons. Delivered 2,349 tons.
Stock 21,992 a decline of about 300 tons.

The effects of the failure in Mincing Lane are, we think, now being cleared up, and we may expect to see prices fall away somewhat. Our view is to sell everything we have as quickly as possible.

TEA.—The first auctions for the New Year have been held this week, the demand was quiet and the tone irregular. Good quality teas about maintained their value under good competition, but all grades of common and poor medium sorts marked a decline, and must be quoted 1½d. to 2d. per lb. cheaper.

Locally, the Coffee Market has, on the whole, been dull. Sales were reported up to Rs. 70-8-0, but have since declined and are to-day round about Rs. 68. At the time of writing, exchange had jumped to 2*s.* 6¼*d.*, and an immediate heavy fall in the price of all sorts was anticipated. Since then exchange has risen another 2d., and there is no knowing how high it will go, so that the anticipated fall in the price of coffee becomes almost a certainty.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 6TH FEBRUARY, 1920.

168*s*/- *per cwt. Market is very firm.*

THE MARKETS.

The times are such that the Produce markets at home seem to introduce new features almost weekly, and become more and more interesting as time goes on. A great feature, of course, has been the steady advance in prices, which has now proceeded for something like twelve months, and we see no signs in recent reports that would indicate any falling off in the near future. There will always be fluctuation, but this is not sufficient to hide the undoubted tendency upwards, and there is generally a good reason for any temporary decline. Exchange, admittedly, is responsible for much of this, particularly in the Rubber Market, owing to the depreciation of the sovereign in New York. America has always been a large buyer of this product, and is now coming forward with increasing purchases of both tea and coffee. There is a point in this which we must not lose sight of, and it is this, that the depreciation of the sovereign in New York, although it tends to attract American buyers of raw materials to the London market, has the effect of

warding continental buyers away from America, and diverting them to the home trade. America ought therefore to reduce, and probably will, the price at which she can produce such things as tyres and other manufactured articles for which the raw material is purchased in London. Writing of rubber reminds us that further details have now come to hand of what is known as "the Peeters default." The Market correspondent of the *India Rubber Journal* says the market is assuming a more natural tone and is more in keeping with the true position, as prices have shown a marked decline, and evidently a fair proportion of the covering necessary for brokers to cut their losses has been accomplished. He goes on to say:—

"Unfortunately some very wild rumours have got about, creating uneasiness and unnecessary alarm.

The rubber trade of London has had to shoulder a loss, and, in doing so, brings into the limelight the important fact that a London broker making a contract has to guarantee the solvency of both buyer and seller.

The fault of the recent failure lies in the want of a little more care in the selection and balancing of customers' commitments, and not in the principle of guaranteed solvency.

Big and reponsible firms are necessary to the rubber trade, and they are quite well able to mop up this difficulty and put matters right.

The development of the rubber trade makes it necessary for both the consumer and producer to deal largely in futures.

Sound and scientific dealing in futures at present rests upon the principle of guaranteed solvency, and this principle must not be brought into question. Ultimately, a "clearing house" may be formed with protective rules, but this is another question just yet.

The loss sustained is £506,000 and assets are about £100,000, which comes from the foreign partners in the defaulting firm.

The loss is arrived at upon a striking price fixed by the Rubber Trade Association as the value of rubber on the day of the default.

The amount of rubber involved is not disclosed; probably one-half of the quantity involved is for outside speculative account, and thus will come back upon the market. The other half will be for legitimate consumers or their direct suppliers. The brokers have cut their losses on most of this, but there is evidently a considerable quantity which will be run for a more opportune time to cover, and the outside speculator is yet dreaming about still higher prices.

The lesson to be taken to heart is for brokers to largely avoid the outside speculator, and to take a more balanced view of their customers' commitments."

Fortunately, we have the assurance of our London contemporary that we may dismiss from our minds any idea that the stability of brokerage firms is menaced in the least.

Coffee.

It will be seen from our weekly cable that this market continues very firm, which carries out the view expressed in the home papers a month ago. With the reopening of the market, it is pointed out that all the best of the 1919 coffees have gone, and the prices published in our last week's issue refer to second quality. The term market is buoyant, and there are general indications that coffee will be shorter in supply this year, and that the prices ruling will be fully maintained. New factors may arise, however, to modify the position. Thus writes the *Produce Markets Review* of January 10th.

The following monthly statistics to 31st December, from Messrs

T. H. Allan & Co's reports show the favourable position of coffee from this point of view:—

	1919. Tons.	1918. Tons.	1917. Tons.
EAST INDIA—			
Landed	5,292	54	3,209
Delivered	4,243	1,523	2,365
Stock	1,143	142	1,611
ALL AFRICA—			
Landed	3,687	2,081	1,084
Delivered	3,219	2,072	1,231
Stock	1,017	549	540
COFFEE OF ALL KINDS—			
Stock in U. K. on 31st Dec. ...	20,370	20,570	39,855
Total European Imports to December 31st ...	467,250	53,355	185,540
Total European Deliveries to December 31st ...	370,400	182,470	251,705
Total European Stock on December 31st ...	127,000	30,176	159,385
World's visible supply on December 31st (*a*) ...	566,765	668,412	588,940

(*a*) including the Sao Paulo Government stock.

America is reported to have bought up considerably more than her pre-war share of Central American coffee, the bulk of the crop in fact, so there is every reason to justify the confidence felt by the brokers at home in a continued strong market when the new East Indian crop arrives.

Tea.

The better grades continue to meet good competition, but common sorts are reported weak, and the market generally met with a poor demand, a quantity of lower kinds being withdrawn. The decline amounted to an average of 1½ to 2d. all round when compared with December. Heavy supplies arrived during the holidays, we read, and the difficulty of handling the tea quickly, and especially of distributing it through the country, makes things worse. Our London friends make the interesting note that customs clearances for Naval and Military use abroad were just under six million lbs. last year, as against nearly 57 million in 1918.

Minor Produce.

There has been more doing in the pepper market, after a dull period, and Black Pepper is much firmer. The recent fall in prices was due to speculative selling, and the sales are now being covered at considerable loss. White pepper remains steady, and there is more demand both from home and export. Cardamoms have shown a good demand for fine bleached qualities, but there is nothing doing in greens.

Nilgiri Planters' Association.

We published last week the minutes of the last meeting of this Association, extracted from the "South of India Observer." At the request of the Honorary Secretary, we are glad to be able to give our readers in this issue the official version of this meeting.

Yours faithfully,

(Signed) EDWIN VINCENT,

Managing Editor.

The Pentland Portraits Fund.

We have published details, from time to time, of donations received by the Secretary, U. P. A. S. I., and these figures require some modification, as it appears the South Mysore Planters' Association sent their subscription direct to the Secretaries of the fund, and one other promised subscription has not materialised. The actual amount, therefore, received by the Secretary, U. P. A. S. I. is Rs. 530, which amount has been acknowledged in the Madras papers. The following have since been received:—

	Rs.	A.	P.
Sir Robert Stanes	25	0	0
Mr. E. E. Limouzin	10	0	0
„ S. C. Reilly	5	0	0
„ N. J. Stanes	5	0	0
„ R. Bake	5	0	0
„ W. A. Cherry	5	0	0
„ L. F. Lake	10	0	0
"S. P."	10	0	0
Previously	530	0	0
Total Rs....	605	0	0

Cheques should be made out payable to the Secretary, U. P. A. S. I., Coimbatore.

THE SCIENTIFIC DEPARTMENT, U. P A S. I.

Crushed Limestone.

It is very often difficult for firms to supply, or planters to get, sufficient quantities of burnt lime for the purposes of estates, owing to difficulties in preparing it during the monsoon, shortage of fuel, and so on. It has been suggested that, since in whatever form lime is added to the soil its physical effect is the same, and depends upon the lime combining with the carbon dioxide present in the soil to form bicarbonate of lime, a compound soluble in water, finely ground limestone might be used instead of burnt lime.

Slaked lime has the following advantages: It is a very finely divided dry powder, so that it can be easily broadcasted and intimately mixed with the soil. It also assists in breaking up the organic matter present, liberating plant food in a form available to plants. On clay and heavy soils, slaked lime acts upon the insoluble silicates and phosphates, and sets free potash and phosphoric acid for the use of crops in a way which crushed limestone could never do.

Consequently slaked lime is the best form to use, but lime is often needed to neutralise the acidity of a soil and get it into a suitable condition for the activity of soil bacteria. In these cases, it is possible to use crushed limestone if it is of a suitable kind, and the use of this material is widespread on tea in Assam.

Great care must be taken, however, to see that limestone of a suitable kind is procured. Limestone deposits in India vary a great deal in composition, containing, in some cases, a high percentage of magnesium carbonate, silica, etc., and these are not regarded as of good quality from an agricultural point of view, and may even be detrimental.

Also the limestone for agricultural purposes in the tropics must be very finely ground indeed, and should be of the fineness of flour, or Basic Slag. This must be insisted upon.

Different forms of lime do not contain equal quantities of actual oxide of calcium, which is the chemical compound being bought and used, and so

it is necessary to apply them in different quantities to produce the same effect. The equivalent quantities by weight of pure material are as follows :--

Crushed limestone	...	100
Slacked lime	...	74
Quick lime	...	56

It will thus be necessary to replace a dressing of a ton an acre of slaked lime by 1½ tons of crushed limestone, or even 2 tons if it is not of a high standard of purity.

It will thus be seen that it is largely a matter of cost. If crushed limestone of a suitable quality and fineness can be put on the market at such a rate, including transport, that two tons of it can be applied at the same cost as one ton of good slaked shell lime, we should certainly advise planters in many cases to use it, and most certainly to give it a trial. It is possible that this can and will be done. Experiments carried out a year or so ago in Coorg showed that it was possible, and the matter is just now being seriously looked into.

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

Scientific Department, U. P. A. S. I.

THE DEPUTY DIRECTOR OF AGRICULTURE, PLANTING DISTRICTS.

Mr. R. D. Anstead has left Coimbatore for Nagpur, where he will inspect certain lands and report on their suitability for coffee cultivation. This, he is doing at the request of the Government of the Central Provinces. Mr. Anstead is expected to return to Coimbatore on or about February 21st.

DISTRICT PLANTERS' ASSOCIATIONS.

The Anamallai Planters' Association.

Minutes of an Extraordinary General Meeting of the Anamallai Planters' Association, held at the Anamallai Club, on Monday, the 26th January, 1920, at 2-30 p.m.

PRESENT.—Messrs. J. Hatton Robinson (Chairman), B. M. Behr, E. W. Simcock, C. R. T. Congreve, C. Fraser, A. C. Cotton, E. Johnson, C. K. Pittock, E. Hardy, J. A. R. Lloyd, F. Simmons, S. C. Biddell, E. N. House, Messrs. Barber and Pascoe, (represented by Mr. N. C. Whitton), and J. E. Sampson, (Honorary Secretary.) *Visitor*—Captain E. Bownas.

MINUTES.—The Minutes of the Extraordinary Meeting of the General Committee, held on the 5th January, 1920, and of the Extraordinary General Meeting held the same day, were read. The Honorary Secretary was instructed to alter clause 3 of the Private circular to read as follows :—

" That the contract rate for plucking leaf be at the maximum rate " of 3 pies per pound."

With this alteration the Minutes were duly confirmed.

PUBLIC BAZAARS.—Considerable discussion took place with regard to this matter, it being generally admitted that such bazaars, or, in lieu of them, weekly " shandies" are necessary.

Mr. Fraser proposed the following resolution, which, on being seconded by Mr. Pittock, was carried unanimously :—

" That the Honorary Secretary be instructed to write to the Dis- " trict Collector asking for sanction to start a weekly market on " the Township Site, and that the Chairman or a Member of the " Committee be asked to meet the Collector in this connection at " an early date."

Mr. Behr, seconded by Mr. Congreve, proposed the following resolution :—

"That, if the sanction of the Collector be obtained, the fact be "advertised in the local District markets." Carried unanimously.

Mr. Congreve, seconded by Mr. Simcock, proposed the following resolution :—

"That Messrs. Robinson and Fraser be requested to make plans "and estimates for the necessary buildings in the Township "Shandy, so that no delay may occur when sanction is obtained "from the Collector." Carried unanimously.

Correspondence :

I. D. F. AND/OR AUXILIARY FORCES.—Read letter from the Secretary, U. P. A. S. I., No. 2024, of the 9th January, 1920, and confidential circular, undated.

LABOUR MATTERS.—Read letter from the Secretary, U. P. A. S. I., No. 2024, of the 9th January, 1920.

Read notice of a Meeting of the Executive Committee of the U. P. A. S. I., to be held in Madras on the 8th February, 1920, with reference to the deputation to meet His Excellency the Governor in regard to the proposed repeal or amendment of the Labour Acts.

In this connection, the following resolution, proposed by Mr. Behr, and seconded by Mr. Simcock, was passed :—

"That this Association is still in favour of the views it expressed "by its representatives at the Meeting of the General Committee "of the U. P. A. S. I., held on the 1st November, 1919, and of "their resolutions, which were accepted."

Messrs. Pittock and Lloyd were elected to represent the Association at the Meeting to be held in Madras, and very kindly consented to act.

Read Circular letter No. 82, dated the 8th January, 1920, from the Superintendent, the Labour Department, Srivilliputur Division.

Read and recorded letter from the Secretary, U. P. A. S. I., No. 2084, of the 20th January, 1920, to the Chairman, Anamallai Planters' Association, anent the appointment of one or more gentlemen for the purpose of investigating various areas with a view to future labour recruitment.

Roads and Communications :

COCHIN RAILWAY.—Mr. Whitton informed the Meeting that he had been in hopes of bringing Col. Barnardiston, Mr. O'Shaunessy and others, to the District, in this connection, in time for this Meeting, and regretted that this had not been possible. Mr. Pittock, seconded by Mr. Lloyd, proposed a resolution, to the effect that

"The Chairman and Committee of this Association do meet, and "have an informal discussion with Col. Barnardiston, Mr. O'Shau-"nessy, Mr. Whitton and party."

The Honorary Secretary was instructed to obtain up-to-date figures as to areas in bearing, areas planted, and areas estimated to be in bearing in 10 years' time, and the average monthly imports of grain, building materials, machinery and sundries.

The Honorary Secretary was also instructed to write to the Planting Member of Council, asking what has recently taken place anent this project.

GHAUT ROAD.—Considerable discussion took place with regard to the rapid deterioration of this, and apprehension was expressed as to the grave possibility of parts of the road being washed away during April or May, and the consequent lack of any methods of entry into, or exit from the District.

Mr. Pittock proposed the following resolution, seconded by Mr. Fraser :—

"That the deplorable condition of the Ghaut Road be brought to "the notice of the Planting Member of Council, and that he be "requested to take up the matter immediately, with a view to getting the present precarious state of affairs speedily remedied."

Carried unanimously.

PLANTERS' BENEVOLENT FUND:—Read Circular letter of the 13th January, 1920, from the Secretary, U. P. A. S. I., to all Chairmen and Honorary Secretaries of District Associations, and copy of the note circulated by the Secretary, U. P. A. S. I., to Members of the Executive Committee.

It was noted with much pleasure that this Association has a far larger percentage of subscribing members than any other.

The Honorary Secretary was instructed to again approach those members who have not yet replied to previous appeals, and, it was hoped that, prior to the Annual Meeting to be held in April next, all would see their way to become donors or subscribers.

TRANSFER OF MAGISTRATE'S COURT.—The Honorary Secretary was instructed to write to the Collector, requesting that the Sub-Divisional Magistrate's Court, at present held monthly at Iyerpadi Rest House, be transferred to the Travellers' Bungalow on the Valparai township.

With a vote of thanks to the Chair the Meeting terminated.

(Signed) J. HATTON ROBINSON,
Chairman.

(Signed) J. E. SAMPSON,
Honorary Secretary.

Nilgiri Planters' Association

At a Quarterly Meeting of the Nilgiri Planters' Association, held at the Collector's Office on Thursday, the 29th instant, the following members were present :—

PRESENT.—Messrs. J. B. Vernede (in the chair), Sir Robert Stanes, Sir Fairless Barber, A. S. Dandison, St. John Ives, J. B. Leslie Rogers, G. F. W. Elwes, George Oakes, N. Grey, W. Cherry, L. F. Lake, Browne, C. Vernede, N. J. Stanes, Reilly, Hercus, E. E. Limouzin, Hayne, Bake, Hawke, J. Lornie, and A. K. W. Downing, Honorary Secretary. *Visitors*—Messrs. Waddington, Stonehewer, Birly, Fulcher, Blackett and Chatterton, Deputy Collector.

PROCEEDINGS.—The proceedings of the previous meeting were taken as read and confirmed.

GRAIN (RICE AND RAGI).—Considerable time was spent on the question of rice and ragi.

Mr. F. Birly, of Messrs. Best & Co., Ltd., was present, and thanked the meeting for giving him an opportunity of explaining, on behalf of his firm, the considerable misapprehension that prevailed as regards the supply of rice to the Nilgiris.

In the first place, Messrs. Best & Co. had never intended to establish a monopoly, and even if they had such intention they could never have done so. The Director of Civil Supplies not only controlled the cost and selling prices of all rice, but he also gave Best & Co. in common with all other importers, detailed instructions with regard to the disposal of all rice, either imported or purchased in India. If the Director of Civil Supplies instructed Best & Co. to consign rice to the Nilgiris, Best & Co. had no option but to

obey the Director's orders. Best & Co. had nothing to gain by supplying the Nilgiris in preference to any other district.

Once the district allotment was fixed by the Director of Civil Supplies, the onus of distributing the rice lay with the Collector and his nominees.

In the first place these nominees consisted of certain grain merchants, who, at one time, refused to accept monthly allotment, which the Collector considered necessary. The Collector then asked Best & Co. to undertake the retail sale in Ooty and Coonoor. This was done, but, in spite of the fact that rice was constantly exposed for sale at these depots at prices equal to or cheaper, quality for quality, than that sold by other retailers, Best & Co's. retail sales were practically nil, but the depots were continued at the request of the authorities, as being the most efficient means of controlling prices on the Nilgiris.

As regards the quality of the rice exposed for sale, this was boiled milchan Burmah rice, thousands of tons of which had been imported into the Presidency during the past year by various importers, and there had been no complaints with regard to the quality of this rice. When the Municipal Council passed their resolution condemning the rice, as "unfit for human consumption" there were only thirteen bags left in the depot, and this was sold on the following day, as B. & Co's. storekeeper had received no instructions to stop sale. Nor were any complaints as to quality received from the purchasers. So much for the Municipal Council's resolution.

When the present situation arose, the Collector asked Best & Co. to send 800 bags as reserved stock and 600 bags for immediate sale. This Best & Co. promptly agreed to do, providing they could obtain the rice, and such meagre supplies as were obtainable have been despatched from time to time.

Now that free supplies of new crop Burmah rice may be expected, no difficulty is anticipated in keeping the Nilgiris supplied, but, as to whether the rice is sent by Best & Co, depends entirely on the Director of Civil Supplies, who may order any importer to supply against the Nilgiri allotment.

Mr. Chatterton explained the situation, and stated that a fair quantity of rice was on its way, and that very shortly the situation would be relieved, but, that for the past few days the situation was both anxious and serious. Messrs. Best & Co. had been selling at 6¾ measures the rice they had in stock, and he was very thankful to that firm for helping to relieve the situation.

Mr. Downing then moved that the Collector should be addressed with a view to the Planters' Association having a consignment of rice sent to it direct. The following resolution was proposed by Sir Fairless Barber, and seconded by Mr. A. S. Dandison; then passed unanimously:—

"That this Association request the Collector to assign a certain portion of the rice supply to the Nilgiris to the N. P. A., and further that he ask the D. C. S. to allow this portion to be supplied by Messrs Best & Co., for delivery to Stanes & Co, Coonoor."

The Chairman thanked Mr. Birly, for attending the Meeting, and giving such an interesting address. Mr. Dandison said he hoped that whatever arrangements were come to with the Collector of this District would be carried through in their entirety by that official, for we had no guarantee that a change of Collector might not mean a change of policy. In the case of ragi, as one who went part security for the Rs. 30,000 credit to finance grain, he would like to say a few words.

"As has been stated, we stepped in at a very critical time, and, with the aid of Mr. Davis, arranged supplies of grain. We got a certain amount, and

were unable to get the bulk of what we had purchased owing to the railway refusing to accept it. We appealed to Mr. Bryant, who referred us to the railway. Another refusal. Then our Agent went to Mr. Bryant several times to get assistance to rail our purchases. Nothing doing. We had to get on the best way we could, paying grain compensation allowance. Prices fell, and we were then able to get the grain, but, purchased before the new crop, it cost us more than what we could buy at locally. Consequently, having lost heavily, we chucked everything in disgust with a feeling of having been done, as we counted on assistance in railing purchases made at the suggestion and advice of the then Collector of the District. Our action in raising Rs. 30,000 and getting a certain amount of grain saved the situation for the time, not only for ourselves but for the Nilgiri Plateau, which is freely admitted. Yet we received almost opposition in getting our further supplies, with the result I have stated.

I have not the slightest hesitation in saying that there would not be the acute food shortage there is or has been if we had been assisted to carry out the admirable arrangements made on Mr. Davis' advice, as, instead of having our own supplies, we are now scrambling to get food for our coolies, thus reducing the amount available for others.

As regards the Rs. 10,000 that is offered to INDUCE us to take action, well, once bitten twice shy, and as far as I am concerned, there is nothing doing unless we received a definite assurance that we shall not be let down as I consider we were before.

I would like to add a protest to that part of the Collector's circular which refers to the N. P. A. through our Honorary Secretary. It is most misleading, and infers that we are shirking our responsibilities in arranging for grain. Having lost heavily already, it is hardly likely that we should rush into another venture till assured that if a change of Collectors took place, there would be a continuity of arrangements."

The Honorary Secretary then said he would like to say a few words on the following sentences in a circular letter issued by the Collector, and which was read at a meeting of grain merchants held at Ootacamund : —

" It is therefore up to the merchants of the plateau, to the Nilgiri Planters' Association and to the members of the emergency committee in Gudalur, to import what arrears of ragi they can while there is yet time. The Collector is aware of the reluctance of these bodies to make large purchases on a falling market." He pointed out that, instead of the N. P. A. being reluctant to purchase on a falling market directly the then Collector, (Mr. Davies) had informed them of the situation, an Emergency Meeting was called in March, 1919, and statistics were collected from members, and three of their number raised a credit of Rs. 30,000 for the purchase of ragi. " He has warned the Secretary of the Nilgiri Planters' Association of the impending scarcity of ragi. To induce that officer to take action he has authorised Mr. J S. Nicolls to expend on his behalf, if asked to do so, the sum of Rs. 10.000 out of the said sum of Rs. 30,000 advanced from District Board Funds."

This sentence taken in conjunction with the one above quoted, is a direct insinuation that *nothing* had been done by the officials of the Association, whereas everyone, including the Collector of the District, knows perfectly well the steps taken to meet the situations : he was not speaking on this matter merely on behalf of his fellow-workers and himself, but on behalf of the Association ; as he considered the Collector was not justified in alluding to this Association as he has done, and he wished to state publicly the strong resentment he felt at the remarks made by the Collector of the District, after the Association had done its best to meet grain supplies for its members for the past ten months."

The Honorary Secretary then read correspondence with the Collector with reference to the import of ragi from various taluks in Mysore, and his action in the matter was approved of.

After considerable discussion as regards the future importation of ragi, the following resolution, proposed by Mr. Elwes and seconded by Mr. George Oakes, was carried unanimously:—

"Resolved that, as the Association is not willing to take up the suggested allotment of 100 tons, members wishing to take any part of it should make their own arrangements with Mr. J. S. Nicolls."

PENTLAND PORTRAIT FUND.—In this connection a list was circulated, and the members noted thereon the amounts they were willing to subscribe.

ROADS AND COMMUNICATIONS.—The meeting objected to the following notification issued by the President of the District Board :—

"As the District Board roads are narrow and are not constructed to carry motor lorry traffic, the public are hereby prohibited, without the express permission of the President in writing, from using motor lorries on the said roads.

Nothing in this order shall apply to the motor lorries of His Highness the Maharajah of Mysore, who has promised to carry only half-loads."

In the absence of the Collector, Mr. Chatterton gave members present the information they required, from which it was apparent that Colonel Ward considered that light lorries did much more harm to the roads than carts. The sense of the meeting was that carts did more damage than light lorries.

Sir Fairless Barber considered the prohibition was illegal, and asked for the authority under which it was issued.

It was shown that the order was dated three days before the last meeting of the District Board, and that it had neither the sanction of the Board nor of Government.

Mr. Oakes pointed out that, in consequence of this notification, he had to cancel two contracts, one with Coimbatore and one with the Postal Department, to run motor lorries to Pundalur *via* Gudalur. He was of opinion that the 1½ inch cart wheel did more damage than motor lorries of the description.

Mr. Chatterton, further, in answer to questions, stated that Messrs. Tata & Son had been informed that they would have to strengthen the bridges in the district before they took heavy machinery across.

Members then thought that they were going backwards, and that the means of communications seemed to be better in the days when machinery was carried to the Wynaad for gold mining.

The following resolution, proposed by Mr. Downing and seconded by Sir Robert Stanes, was carried unanimously :—

"This meeting, finding that the notice issued by the President, District Board is illegal, advised its members that there is no objection to their using motor lorries on the roads as heretofore."

PLANTERS' BENEVOLENT FUND.—After the Chairman had addressed the meeting a list was passed round, and donation and subscription promised from 14 new subscribers. It was resolved that this year's subscription (1919-1920) be paid now, and that, in future years, it be collected along with the annual subscription.

LABOUR ACTS.—In connection with the deputation that was to meet His Excellency the Governor in the matter of the amendment of the Labour Act, as the Association was not sending a delegate, the following resolution was put from the chair and carried unanimously :—

"That this Association leave it to Mr. Dandison to act as he considers best in the interests of the Association."

SUBSCRIPTIONS TO U. P. A. S. I.—The Honorary Secretary informed the meeting that he would shortly be sending out bills for the 4th quarter's subscription to above ; and requested members to send in their dues without delay, as the official year terminated on 31st March, 1920, and he wished, as his term of office then expired, to be able to hand over to his successor without any outstandings.

MISCELLANEOUS CORRESPONDENCE.—Mr. E. L. Eagan (Kotada Estate) was duly elected.

INDIAN DEFENCE FORCE.—Read and recorded letter from the Secretary, U. P. A. S. I. The Honorary Secretary was instructed to write Mr. N. A. Menon giving him particulars of membership.

BEER SHOPS.—The meeting noted with satisfaction and thanks the decision of the Collector and Excise Committee that beer and arrack shops should be closed in Coonoor Town on Sundays and Tuesdays, and that the Beer Shop at Kateri was to be closed.

SIR ROBERT STANES.—The meeting passed a vote of congratulation with acclamation to Sir Robert Stanes on the honor that had been conferred on him. Sir Robert Stanes thanked members for same.

VOTES OF THANKS.—With a vote of thanks to the chair and to the Collector for the use of the room, the meeting terminated.

(Signed) J. BEAVER VERNEDE,
Chairman.
(„) A. K. WELD DOWNING,
Honorary Secretary,
Nilgiri Planters' Association.

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, on 20th January, 1920.

PROCEEDINGS.—The proceedings of the last meeting of the Committee, held on the 6th January, 1920, were confirmed after previous approval in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON).—Letters dated 18th and 24th December, 1919, from the Indian Tea Association (London), which had been circulated, were now before the Committee for consideration. The principal subjects dealt with in these letters were the following :—

(*a*) *Restriction of exports from the United Kingdom.*—In the proceedings of last meeting there was printed a copy of a letter in this connection, addressed by the London Committee to the President of the Board of Trade. With the letter of 18th December, there was forwarded a copy of a letter which the London Committee sent on the same subject to the Director of Tea Supplies, Ministry of Food, and which was as follows :—

The attention of my Committee has been drawn to your letter, dated 28th November, addressed to the Tea Brokers' Association of London, in which you state that, once teas are printed for sale for home consumption, such teas are no longer available for export.

I am instructed to say that, in the opinion of my Committee, the time has come to review the situation and to urge that all restrictions on the sale and export of tea be now removed. It is, I think, admitted that the tea industry has at all times loyally co-operated with the Ministry of Food in its efforts to prevent the price of tea to the consumer rising to an unreasonable figure, and so far the object aimed at has been achieved. But the continued rise in the sterling value of the rupee has thrown such a serious

burden on producers that the present market prices no longer leave a fair margin of profit, and, in some cases, barely cover the cost of production. With the prospect of rupee exchange rising still further, and the maintenance of the present high cost of material and ocean freight, Tea Producers view the immediate future with considerable anxiety.

There are ample supplies of tea in stock, and my Committee, after the most careful consideration, have come to the conclusion that any further control by Government is unnecessary and uncalled for, and that the time has come when the tea trade should be freed from restrictions of any kind.

At a meeting of the Advisory Committee recently held, at which you presided, it was unanimously resolved to recommend that such restrictions be removed, and my Committee understand that the Board of Trade are strongly in favour of this course.

My Committee will be pleased to have an immediate reply to this letter, as the matter is of considerable importance, and, unless some decision is arrived at before the close of the year, they are afraid that many producers will decline to print any teas for the opening sale in January on the existing terms.

The General Committee now discussed this subject. They were in complete agreement with the views of the London Association, and it seemed to them desirable that they should bring the matter to the notice of the Government of India, Department of Commerce and Industry, and ask them to take it up with the home Government and to press that the temporary removal of the restriction should be made permanent. It was to be explained to Government that the restriction had related, not to tea imported and re-exported direct, but to teas sold at the London auctions, *i. e.*, that tea sold at these auctions had to be exposed on condition that it would be used for home consumption only. Exception had not been taken to measures adopted by the home Government to ensure adequate supplies of tea to the public there at reasonable prices; but the position was now entirely changed. Stocks of tea at home were now abnormally heavy, and the bonded warehouses were hopelessly congested. From the point of view of the industry, the effect of exchange had so increased the cost of production that the margin of profit had, in the case of some gardens, quite disappeared. The effect of the restriction, by limiting the demand at the London auctions to the requirements of the home market, and eliminating the competition of foreign requirements, imposed an artificial burden on the producer, which there was now no justification to maintain. For these reasons the Government of India were to be asked to support the representations already made by the London Association.

(*b*) *Food Controller: Extra cost of production in 1918.*—In the letter of 18th December, it was mentioned that discussions were still proceeding with the Ministry of Food with regard to the question of the extra ½*d.* per lb. on account of increased cost of production in 1918.

PROPOSED AMENDMENT OF THE WORKMAN'S BREACH OF CONTRACT ACT (XIII OF 1859).—The views submitted by the Committee in connection with the proposed amendment of this Act were explained in the proceedings of 9th December last. They had now received a letter, dated 3rd January, from the United Planters' Association of Southern India, in which reference was made to these views, and with which there were forwarded papers explaining the action taken by them in regard to the proposed amendment of the Act. The United Planters' Association thought that it might be contended that the opinions submitted by the two Associations were contradictory, although this was not really so; and it was suggested that, had there been an opportunity for the two Associations to consult before expressing their views—the Indian Tea Association having submitted theirs

to the Government of Bengal, and the United Planters' Association to the Government of Madras—these might have been so adjusted as to indicate practically uniformity. Enquiry was made as to whether, in similar cases in future, it would be possible for the Associations to keep each other informed of their opinions before definitely expressing these.

The Committee had considered the papers in circulation. It did not seem to them that the opinions submitted by the two Associations were altogether contradictory, except, perhaps, in regard to the question of the proposal to limit the operation of the Act to cases in which the advance to the workmen did not exceed Rs. 300. On this point the United Planters' Association thought that the limiting clause should be deleted, in order to allow of advances to Maistries for the supply of labourers to be included.

On this point, of course, the conditions in North India entirely differed from those in South India, as the advances to Maistries in the latter district had no parallel in the case of North India. In regard to the suggestion that closer consultation might be possible between the two Associations in future, the Committee felt that the circumstances were such that this could not always be possible, but that the interchange of proceedings between the two Associations would assist materially, particularly where there was no special urgency in dealing with matters of common interest. The United Planters' Association were to be informed accordingly.

INCOME TAX: LIABILITY OF TEA COMPANIES TO THE PAYMENT OF INCOME TAX.—In the proceedings of 10th July last, reference was made to the position in connection with the case which it had been arranged to submit on behalf of the tea industry, in order to test the question of whether tea companies are liable to the payment of income tax. The case, which had been drawn up by the Association's solicitors, as a special case for presentation jointly by Government and the industry, was in due course presented to the Board of Revenue, but, from papers which had now been received by the Committee, it appeared that it was desired that separate statements should be submitted by the Government of Bengal and by the industry, and that the Board of Revenue would then base its reference to the High Court on these separate statements. The papers had accordingly been forwarded to the Association's solicitors, in order that the statement of the case should be revised. The receipt of the revised case from them was now to be awaited.

PREFERENTIAL RATES OF CUSTOMS DUTIES IN THE UNITED KINGDOM IN FAVOUR OF EMPIRE PRODUCTS.—In the proceedings of last meeting, there was quoted a telegram of 24th December received on this subject from the Indian Tea Association (London). The word "attached" printed in the telegram should have been "detached," and the telegram should consequently have read as follows:—

Some teas now arriving without certificate of origin. Arrangement has been made with Customs allow preference on such teas on production bills of lading invoice, but absolutely imperative all shipments on or after 15th day of January have detached certificate of origin.

There had been received a further telegram, dated 5th January, from the London Association, reading:—

62. Reference 61, Certificate of Origin must clearly indicate that

Agents are authorised to sign on behalf of growers and marginal note one appendix D Customs Notice 27 sent you 11th day of September must be complied with.

Copies of this telegram had been sent to all members of the Association, for information, and also to the Calcutta Tea Traders' Association, and it was now to be recorded.

THE SALE TEA WAREHOUSE.—The Chairman explained that there was no possibility of a tea sale being held before the 3rd of February, the Port Commissioners having advised, in the first place, that it would not be possible for them to deal with a sale on the 20th January, and similarly with regard to the sale which should have been held on the 27th idem. Some discussion took place on the position; reference was made to the fact that the Association had consistently maintained that the tea warehouse should not be used for storage purposes, and it was understood that the existing congestion was due principally to buyers keeping their teas there for indefinite periods, after the teas had passed the sale. The charge imposed for storing tea in the warehouse was not sufficiently heavy to act as a deterrent; for, in point of fact, it was less than the charge for storing outside. The remedy seemed to the Committee to lie in the adoption of a regulation that tea should not be allowed to lie in the warehouse for more than a limited period after the sale. Admittedly, the shortage of steamer freight aggravated the existing position, and the extent to which buyers were dividing teas also made matters worse. The Chairman explained that the question was to be discussed by the Sellers' Sub-Committee with representatives of the brokers in the course of the next few days, and that the Committee would be informed thereafter as to development.

ANNUAL MEETING OF THE ASSOCIATION.—It was decided to hold the annual meeting of the Association on Friday, the 12th March at 12 noon.

TEA FOR PERSIA.

The Honorary Secretary, Nilgiri Planters' Association, circulates the following letter from Captain Dunning for the information of members:—

> I write to confirm my cable of the 5th instant reading as follows:—
> "Replies urgently awaited previous cables in addition very sound business obtaining mostly cash sales market fluctuation. Please arrange despatch equal quantities five thousand large chests securely packed gunny covered Orange and Broken Orange Pekoes best estates delivery Co. shipping Bombay. Instruct selected estates post pound samples both grades ahead Baghdad address and particulars available stocks." Dunning.

You will no doubt have received my letter of the 3rd instant, which I trust sufficiently covers all main issues. The object of the above cable is to meet, not only the demands made on me by smaller merchants who deal with local consumption in quantities varying from a 100 to 500 chests each, but also to meet the requirements of Persian export merchants. Both classes of merchants have come to me during last week, and desired an assurance and undertaking from me that I will, in order that they may cancel their intended orders to Calcutta and Ceylon, maintain or have on the way a sufficient stock by end of February or middle of March to meet the demand from Persia after rejuvenation of traffic which, at

present, is rendered impossible by the snows. This is a yearly occurrence, but always confidently looked forward to by all merchants. The roughly estimated demands made on me for maintenance of stock was ten thousand chests, but, to be on the safe side, I have made it five thousand. Should I see quite clearly that a greater quantity is saleable later, I shall let you know by cable in sufficient time. This is why I have asked that samples should be posted ahead. My reason for asking for only the two best grades is in response to the requirements of interested merchants, and the certain suitability of this tea to the market. It is not only this, but it has got about and is commonly said that, in point of quality and flavour, Ceylon and Assam count second to the teas imported by me, although personally I have seen and tested equally good Ceylon importations. However, the popular inpression is as I have stated, and I wished to do everything to maintain it. Later on I will use this reputation to advantage in the introduction of other Nilgiri grades. At present it is very necessary indeed to cater, in every way possible, to the requirements and necessities of both the market and interested merchants, especially those who are large Ceylon and Assam importers. One point of importance I wish to mention in regard to these two grades, is that a black tea should not be selected. The Deverashola and Rockwood samples of B. O. P received by me, containing white or golden leaf, is the kind most in demand and commanding a sure and certain market, both as regards B. O. P. and O. P., and I must request, in selecting estates for supply of the two grades referred to, preference will be given to the supply of this quality. The more white or golden the leaf the better, both as regards market and price. I have not yet received a reply to my cables, but am in momentary expectation of it.

(Signed) C. W. A. DUNNING,
Captain.

P.S.—" Since concluding this letter, the manager of one of the largest firms of importers has been in to see me, and I have very reluctantly had to imform him that I have not received a reply. I append copy of the cable despatched in his presence. I did this for his satisfaction and at his request".

" Please expedite reply cables see letters posted third instant and to-day." " Dunning".

" I need hardly point out that any delay places me in a very awkward position here, besides being prejudicial to the promotion of good business."

Since writing the above the following cables have been received from Capt. Dunning and the Imperial Bank of Persia, respectively. (Copies of telegrams 1 & *2*) :—

I.

" Following arranged Imperial Bank Persia Baghdad all shipments with documents consigned Bank through Branch Bombay sales open market smaller merchants Baghdad delivery against full amount cash and shares credit encouragement promotion business ninety-one day and less according your wishes against cash deposit and only guaranteed bills banks approved constituents good business and markets assured advise leave matters discretion bank myself see banks cable to-day.

(Signed) DUNNING."

II.

" Agree Dunnings arrangement cabled to-day market and business should be profitable collection payments guaranteed against deliveries bank recommend early action all transactions Dunning under Bank's advice guidance.

(Signed) MANAGER IMPERIAL BANK PERSIA."

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

The Benevolent Fund.

Dear Sir,—The following may interest you.

(Initialled) H. W.,
London,
14th January, 1920.

H. WADDINGTON, Esq.,
Secretary, U. P. A. S. I.

PLANTERS' BENEVOLENT FUND.

Dear Sir,—I thank you for your communication of the 11th December, informing me that no subscription to the above fund has been received from me since 1914. I was unaware that this was the case, and am obliged to you for informing me. The circular you kindly sent proves the excellent work that the fund is carrying on. It should receive universal support, and I will gladly help.

I have asked Mr.————to send you on my behalf Rs. 240, being my subscription at the rate of Rs. 40 per annum for 1915, 1916, 1917, (?1918,) 1919, 1920.

I would add that until I received your circular I had no idea of the exceedingly good work this fund is doing.

Yours faithfully,
"....."

Nitrate of Lime.

Sir,—We have read with interest copies of the correspondence published in your issue of the 31st ultimo, passing between R. D. Anstead, Esq., and the Nitrate Trading Co., Ltd., London, *re.* Nitrate of Lime, and, as for some years past we have been the sole agents in S. India for this fertilizer, we shall be obliged if you will allow us to correct one very grave mistake in Mr. Anstead's letter.

In para 3, Mr. Anstead states, . . . "The price however, is very high."....

For the seasons, 1910/11, 1911/12, 1912/13, we extract from the 3 different Manure Booklets we issued and distributed amongst planters, the following prices: Nitrate of Lime, Rs. 170 per ton. Groundnut Poonac, Rs. 90 per ton. White Castor Poonac, varied in price, being Rs. 77, Rs. 75, and Rs. 70 per ton respectively.

Nitrate of Lime contains 13% Nitrogen; Groundnut Poonac 7% Nitrogen, and White Castor Poonac 5% Nitogen, so that the respective unit prices of Nitrogen was Rs. 13, Rs. 12-14-0, and Rs. 14 to Rs. 15-7-0 in the case of White Castor Poonac.

Owing to the great fluctuations of prices during the war, we ceased to publish individual prices in our booklets, but the fact that, yearly, the demand for Nitrate of Lime Manure Mixtures has steadily and persistently increased, is an answer to the danger of being washed out of the soil, and an indication that prices were comparable to ordinary Manure Mixtures.

We are, Sir,
Yours faithfully,
for T. STANES & CO., LD.,
F. J. STANES,
Director.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 13TH FEBRUARY, 1920.

170s/- per cwt. Market Firm.

TEA.

For some time past now we, in common with all Tea planters in India, have awaited with some concern the decision of the Ministry of Food in connection with the claim of Indian Estates for an extra farthing

per lb. on account of increased cost of production in 1918, and our readers will be glad to note from the proceedings of the Indian Tea Association, published elsewhere in this issue, that this claim has been accepted by the Ministry, but with the reservation that it is due only to the London Controlled Southern India Companies. The Indian Tea Association, it will be seen, has sent a cable home to the effect that it does not understand the distinction made between sterling and rupee companies. In the meanwhile we have been privileged to see the correspondence which has taken place on the subject with the South Indian Association in London, and we may congratulate ourselves on being represented at home by this association, to whose committee our thanks are due for the very efficient manner in which South Indian interests are being looked after. The actual letter from the Ministry sanctioning the extra farthing reads as follows:—

"In reply to your letter of the 12th inst., addressed to the Financial "Secretary, I am directed to advise you that this Ministry's investigations "have proved that an extra farthing per pound is due to the London Con- "trolled Southern India Companies.

"Claims submitted to this Ministry should give the name of the steamer, "the marks, and the number of pounds against each mark, as shewn in the "separate Invoices which have already been rendered for payment. The "separate items of poundage should then be added, and a calculation worked "out at ¼*d*. per lb. on the total weight thus shewn, so as to bring out the "full amount of the claim against the Ministry in one item.

"I am to add, however, that no payments can be made in respect of "the extra ¼*d*. to any Companies who have not yet rendered their final ad- "justed accounts, until such accounts shall have been furnished to the "Ministry."

The Indian Tea Association cable suggests that the matter should be taken up this end on behalf of Rupee Companies, but we understand the South Indian Association in London has taken up the matter already with the Ministry of Food, and we may expect to hear shortly with what result.

Another difficult situation which Tea producers are in face of is the question of warehouse and Dock congestion in London. The root of the trouble is of course the restriction of export, and the position is further aggravated by abnormal stocks, slow delivery of teas already sold and the large shipments from India in November and December. A deputation including representatives of the India Tea Association, the Ceylon Association and the China Association, attended a meeting with the Tea Warehouse keepers for the purpose of discussing the question, and the delegates of the Indian Tea Association in their report of this meeting pay particular emphasis on the above points. The wharfingers propose

allocating teas by a small committee to warehouses which can provide space, *i.e.*, pooling the bonded space of the port to meet the emergency, and, although this will not provide more space, it may ensure the best use being made of what is available, and is accepted purely as an emergency measure. Strenuous efforts are being made for the removal of all export restrictions. From further correspondence on the subject, we gather that, in the opinion of the Ministry of Food, the remedy lies in an immediate increase of bonded accommodation, and not, as is claimed by our London friends, in increased deliveries and removal of export restrictions. Admitting that additional bonded accommodation would very materially help to lessen the present acute congestion, it is felt that the removal of all export restrictions will also be a very important factor in relieving the situation. At present all exports are conditional upon licenses being obtained, and these are only granted to pre-war shippers, whose exports are limited to the quantities formerly exported by them. Pressure has been put on the authorities to remove all export restrictions, including the export license system, and the Ministry of Food has agreed to receive a deputation from the various associations interested. The claim is made by the Ministry that export licenses have been issued for some time past to all firms wishing to export tea, irrespective of whether such firms exported in pre-war years or not, and there is therefore no obstacle of any kind to the export of tea to any destination except (under present regulations) to Bolshevist Russia. If this is so, there seems to be no reason why the rules should not be withdrawn. It seems hardly credible that definite restrictions laid down by the Ministry should be ignored by the Export License Department of the Board of Trade. The position is thus a little obscure, and we await with interest further information from London.

North of Scotland College of Agriculture.

Planters' Classes.

In our issue of 3rd January, we drew attention to the prospectus of this College, which is providing a short course in the summer for planters going home on leave. At the suggestion of Mr. George Croll, of Messrs. Harrisons & Crosfield, Ltd., the South Indian Association in London is sending a further supply of the prospectus which, it is felt, might be useful to planters going home this year who are desirous of taking the course. Copies of the prospectus may be obtained on application to the Secretary, U. P. A. S. I.

SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Rubber Seed Selection and Thinning Out.

Two important papers dealing with the variation in yield of individual Hevea rubber trees, and the light this variation throws on the problems of thinning out and the possibility of selecting seed on the estate from which to raise a higher yielding strain of trees, have recently been published.

The first is by Whitby, and appeared in the *Annals of Botany* (XXXIII, CXXXI). His experiments were carried out in the Federated Malay States with 1,011 trees, seven years old, in their third year of tapping on a normal plantation. The object of the investigation was to secure data as to the extent to which variation occurs in the amount of rubber yielded by individual trees of the same age and growing under the same conditions, and as to the possible correlations between the yield of rubber and the girth of the trunk.

In the first place, it was discovered that the rubber content of the latex from any given tree was approximately constant on different days, provided that the trees were tapped once a day only, and that this rubber content appeared to be characteristic for the individual tree. It is of interest to note that, if the trees were tapped twice a day, the rubber content of the latex of any individual tree obtained on the second tapping in the afternoon was markedly lower than it was in the latex obtained in the morning tapping. Although the rubber content of the latex from a given tree changed to a certain extent with the weather, yet a tree yielding at one time latex with a rubber content higher than the average could be relied upon to yield a strong latex at all times, and *vice versa*.

The original paper should be consulted as to the exact methods of conducting the experiment. It will be sufficient to say here that adequate precautions were taken to ensure that the height of the tapping cut on the trunk did not enter as a disturbing factor, the depth of the tapping on each tree represented the greatest accuracy which is obtainable, and the disturbing effect of weather conditions was avoided as far as possible.

The results obtained showed a wide variation in rubber yield among the trees, and the presence of an important number of trees which were yielding amounts of rubber several times larger than the average. 9·6 per cent. of the trees were on the average yielding 3·6 times as much rubber per tree as the remainder of the trees. On the one hand, 9·6 per cent. of the trees on the area were contributing 28 per cent. of the total yield, on the other hand 17·7 per cent. of the trees were contributing only 2·9 per cent. of the crop, and certainly did not repay the cost of tapping. The highest yields were given by four trees out of the 1,011.

These figures are most instructive, and show the great possibilities of seed selection in improving rubber yields. Following this up, the difficulty was encountered that the seeds are often projected to considerable distances from a tree when the ripe capsule bursts, so that seeds lying on the ground under a given tree are not usually all derived from the tree in question. To overcome this difficulty, conical bags of wire netting were placed round capsules on selected trees. It was then found that all the seeds from any one tree were exactly similar in appearance. The differences which the seeds from different trees exhibit in regard to tint, mottling, and size are very marked, but the noteworthy fact is the accuracy with which the tint, mottling, and the shape, even down to such peculiarities as slight striations on one side, are repeated in all the seeds from a given tree. With a little experience it is found possible, once a true sampl

has been obtained by the wire cage method to act as a pattern, to pick out the seed from a given high-yielding tree from those lying on the ground in its neighbourhood.

It is suggested that such seeds should be collected and sown to raise nurseries for future plantations, but the fact is ignored that these seeds will not come true, and reproduce the parent tree. Rubber flowers are insect fertilised, and so a great deal of inter-crossing must take place, and consequently seed from selected trees will produce all kinds of variations, and a great deal of further selection would have to be done, and this implies a very long period of years before a high-yielding strain could be obtained with any certainty. Any selection work with rubber must be done on strict plant breeding lines, and, either high-yielding trees must be propagated after selection by cuttings or grafting or budding, which will also get over the difficulty in South India, introduced by *Phytophthora Meadii*, the attack of which in some years would prohibit the ripening of a single sound fruit.

A certain amount of land crossing under muslin bags will have to be done also. The work is by no means impossible, but it is work for a specialist, a botanist, and a whole-time man on a special station. That it is worth it is undoubted, but who is going to pay for it? Of this we may be certain, that the first body of rubber planters who do by selective and breeding methods obtain a strain of high-yielding trees will make an enormous fortune, and amply repay all the money they would have to expend to get the result, just as some day a body of tea planters will reap a fortune by having employed a special bacteriologist to discover how to control and regulate the quality of tea so that high-flavoured teas can be made from any kind of leaf. Probably both results will be first obtained in Java, where the value and possibilities of the research worker in science are appreciated and considered worth paying for.

The magnitude of the stake to be played for may be judged by the following. The average yield of the trees experimented with was 7·12 grammes per day, which is recorded as being equivalent to 5·49 lbs. per tree per annum. This figure accords with the yield of 360 lbs. per acre per annum, which the plantation was giving. *Now*, the best tree gave 42·77 grammes per diem which, on the same basis, is 2,162 lbs. per acre. Suppose all the trees had been selected so as to give this individual yield, an at present unthought of yield per acre would be obtained. Incidentally, this would solve the labour problem, because only a very small acreage would be required to produce a large output, and a proportionately small labour force.

A further point was studied by Whitby, namely the relation of girth to rubber content of latex. Here a somewhat unexpected result was obtained, for, it was found that although there is a definite positive correlation between yield and girth, the extent of this correlation is not sufficient to justify very much emphasis being placed on girth when selecting trees for thinning out, and selection should be made on a yield basis. That is to say, that a tree with a small trunk will not necessarily give a small yield, nor a tree with a large trunk a large yield.

(To be continued).

(Signed) RUDOLPH. D. ANSTEAD,

Deputy Director of Agriculture, Planting Districts.

THE U. P. A. S. I.

Abstract of Proceedings of a Meeting of the Executive Committee of the United Planters' Association of Southern India, held at the Madras Club, on the 8th February, 1920.

PRESENT.

Mr. A. S. Dandison in the Chair.

The Hon'ble Mr. J. A. Richardson, Planting Member.

Messrs. H. L. Pinches and C. Lake, Members of the Committee.

Mr. J. S. Nicolls, Member-in-Waiting.

Mr. H. Waddington, Secretary.

Sir Fairless Barber, Member of the Select Committee appointed to prepare scheme for a Co-operative Store.

The Secretary read the notice calling the Meeting.

The Proceedings of the last Meeting were read, and confirmed.

PROCEEDINGS OF MEETING. *Resolved.*—"That, in future, copies of the Proceedings of Meetings shall be sent to all Members of the Committee."

PLANTERS' WAR MEMORIAL.—The Secretary was instructed to obtain a definite reply from the Sub-Committee regarding the scheme they were asked to draw up in this connection, and, in the event of their being unable to formulate such a scheme, to take up the matter himself and see how far others would be prepared to co-operate for our mutual benefit.

LABOUR ACTS.—The Secretary read the following correspondence:—

Letter from the Bababudins Planters' Association of 2-2-1920,

Do. Anamalai do. 29-1-1920,

Do. Coorg do. 27-1-1920,

and enclosed copy of letter to Commissioner of Coorg, dated 6-11-1919,

Letter from R. Lescher, dated 4-2-1920.

Do. Indian Tea Association, dated 24-1-1920,

and placed before the Meeting the resolutions passed by the Nilgiri, Nilgiri-Wynaad and Wynaad Planters' Associations.

The following note was framed :—

MEMORANDUM OF AMENDMENTS.

To Act XIII of 1859.

1. Understanding that Act XIII is applicable to contracts with labour suppliers, we were instructed to ask that the limitation of advances be deleted, (or the limit raised to Rs. 1,000).

2. It was felt that the limitation of advances to Rs. 300 would lead to Labour Suppliers, who own no property, having to give up the work, as planters having no security at all, could not risk advancing them and it would tend to confining the business of labour supply to men of property, who are not under the same obligation of dealing fairly with their labour as the small man, who is usually of same caste and village as the labourer. That it will lead to men of property exploiting the present type of Maistry to his own advantage, ending in Maistry and cooly eventually finding themselves in their villages under the same load of debt as is now common with labour in Ceylon, which is what we particularly wish to avoid.

3. We presume that contracts made under the Act, as it exists, would not be affected by any amendments that might be made.

4. Limitation of advances will involve us in heavy loss unless we are given, like Ceylon, time to recover present advances and arrange for the new conditions.

5. We are strongly of opinion that the provisions of this penal Act should only be applicable to contracts in writing.

6. We ask for appeal to the District Magistrates, as giving a speedier settlement of cases than is possible by revision of the High Court, and that this should be embodied in the Act.

7. We think that the limitation of time to three months, in which complaint must be made, will work harshly on the labourer or Maistry, as the employer will often be compelled to file a complaint in fear of losing all remedy, whereas he would otherwise have been willing to grant the defaulter more time. We therefore suggest the limitation being extended to six months.

8. With reference to the definition of the workmen, labourer or artificer, the words "Estate Maistry or Kangany" should be included, and it should be clearly defined what an "Estate Maistry or Kangany" actually is.

MILITARY SERVICE ACT.—The Secretary laid on the table his report as regards the interview, on the 16th January, between Officers from Military Head Quarters and the deputation of the U. P. A. S. I., consisting of Messrs. Dandison, Pinches and Waddington.

Ordered to be recorded.

MR. ANSTEAD.—Real correspondence between Secretary and Mr. Anstead on the matter of his taking a year's leave from April next, and

arrangements proposed by the Director of Agriculture for filling his place during that time. Noted.

ROADS AND MOTOR TRAFFIC.—Read correspondence and draft letter, prepared by the Secretary, to the Secretary, Government of Madras (Buildings and Roads), which was approved with the addition of reference to the Kodaikanal Road—Kurungani Road.

THE MEETING THEN ADJOURNED FOR TIFFIN.

On re-assembling at 2-30 p.m., in addition to the gentlemen whose names are given above, the following delegates from Associations were present :—

Present.

FROM THE ANAMALLAI PLANTERS' ASSOCIATION.—Messrs J. A. R. Lloyd and C. K. Pittock.

FROM THE WYNAAD PLANTERS' ASSOCIATION.—Mr. J. A. Gwynne.

FROM THE CENTRAL TRAVANCORE PLANTERS' ASSOCIATION.—Mr. Sylvester.

Mr. Dandison resumed the Chair.

The Secretary read the notice inviting Associations to send delegates to attend this Meeting of the Executive Committee.

LABOUR LAWS.—For the information of the gentlemen not present in the morning, the Secretary read the correspondence cited in the first para of the proceedings under this heading above.

The Secretary read the note prepared this morning, which was passed unanimously.

Put forward by Mr. Nicolls and supported by Mr. Gwynne :—

> "That, if the deputation be asked their opinion in regard to the "retention or repeal of Act I, they should reply on the following "lines :—That the majority of the members of the U. P. A. S. I. is "in favor of Act XIII, but add that the majority of those who now "work under Act I of 1903 is in favour of its retention, and in support "of this draw attention to the resolutions passed by the Nilgiri. "Wynaad and the Wynaad Associations."

This was put from the Chair and accepted unanimously.

At 4 p. m. the delegates of Associations left the Meeting.

MUNDAKAYAM MYCOLOGIST'S STATION.—The Meeting then considered the correspondence and revised estimate received from the Mundakayam Planters' Association, forecasting an expenditure of Rs. 8,803 over the sanctioned estimates for the erection of buildings at this station. They were of opinion that they could not, in view of protests received, sanction the extra expenditure, and the Secretary was instructed to write the Chairman

of the Mundakayam Planters' Association suggesting that that Association should carry on the work as economically as possible, on the understanding that it was responsible for the extra expenditure until such time as the sanction of the General Committee can be obtained, and, further, to suggest that the matter be referred to the Associations interested in rubber, proposing that the additional amount necessary be raised by a special cess on rubber.

The action of the Chairman in advancing Rs. 37,150 to date, account buildings, road and cost of land and compensation to squatters and tenants, was confirmed.

LABOUR DEPARTMENT.—The Secretary read his report, which was accepted, and his action in engaging Messrs. Eaton and Dunning was confirmed.

NEW AREAS.—The Secretary reported negotiations with Messrs. Vincent, Eyre, Lescher, Pittock, Asher and Brock. He was instructed to engage, if possible, Messrs. Eyre and Pittock to each carry out a part of the work, and to obtain the services of another gentleman with a view to reporting on the Telegu Districts, and, later, of employment with the Labour Department.

The Secretary read his report on the work done in investigating new areas.

Recorded.

Advertisements laid on the table.

LETTER OF A. P. A.—Read letter from the Anamallai Planters' Association, dated 6th January last. The Secretary was asked to draft reply, giving reasons that make it inadvisable to circulate full particulars and details and submit same to the Members of the Committee.

The Meeting, at 5 p.m., adjourned till the following day.

9th February, 1920.

The Meeting resumed business at 3 p.m., the same gentlemen, with the exception of Sir Fairless Barber, being present.

Mr. Dandison resumed the Chair.

LABOUR DEPARTMENT, MYSORE OFFICES.—The Secretary explained the position, and it was the unanimous opinion of the Meeting that it would be a mistake to take up land in a situation where it is being given out in quarter acre plots.

COMMISSION TO AGENTS.—The question of giving agents a commission on amounts collected by them was considered, but the suggestion was not approved.

PROVIDENT FUND.—The Secretary asked the opinion of the Committee as to whether they would consider the inauguration of a Provident Fund ,for all employees of the Labour Department drawing a salary of over Rs. 20 per mensem, and it was the opinion of the Meeting that they would like such a scheme prepared.

SHIPPING AND FREIGHT CONTRACTS.—Read letter from Mr. Vincent, Chairman of the Mundakayam Planters' Association, and correspondence connected with the subject received from the South Indian Association in London, in view of whose letters, received on the 6th instant, it was resolved to await further information from home.

TANGANIYKA.—Read letter from Collector of Coimbatore to the Secretary, who was asked to reply as he considered best.

With a vote of thanks to the Chair, the meeting terminated.

(Sd.) H. WADDINGTON, *Secretary.* (Sd.) A. S. DANDISON, *Chairman.*

DISTRICT PLANTERS' ASSOCIATION.

South Travancore Planters' Association.

Minutes of the Quarterly Meeting, held at Quilon Club, on Saturday, 7th February, 1920, at 10-30 a.m.

PRESENT.—Messrs. J. B. Cook (Chairman), Mackie, Ross, Knight, Farr, Jackson (Honorary Secretary), Thom, Jodrell, Lister.

Visitors.—Messrs. Macpherson, Gray, Alexander, Morrell, Lord, Hall, Wilson, Olney, Gillespie.

MINUTES.—The notice calling the meeting was read, and also the minutes of the meeting of the 28th October, 1919, were read and confirmed.

CORRESPONDENCE.—A letter from the Honorary Secretary, Travancore Combined Planters' Association, regarding the Annual General Meeting of that association was read, and Mr. Ross was asked to attend the meeting on behalf of this association. A letter from S. C. H. Robinson, Esq., Commissioner, Devikulam, was read, informing the association that Mr. J. Mackie had been elected Planting Member for the Travancore Legislative Council. The Chairman congratulated Mr. Mackie on his election, and the planting community on securing an able representative.

SOUTH INDIAN BENEVOLENT FUND.—A letter was received from the Secretary, U. P. A. S. I., asking for support for this very laudable fund. Mr. Mackie also spoke on behalf of the fund, pointing out the good work being done in a quiet way. A subscription list was circulated amongst those present and met with good response.

The subject of arrack taverns in the vicinity of estates was brought forward and discussed, and the Honorary Secretary was asked to write the Chief Secretary of Government regarding the suspension of licenses near plantations.

The question of roads was discussed, and the delegate was asked to pu the matter strongly before Government.

At the request of the meeting, Mr. T. L. Jackson undertook the duties of Honorary Secretary.

There being no further business, the Chairman declared the meeting closed.

(Signed) THOS. L. JACKSON.

12—2—20.

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, on 3rd February, 1920.

PROCEEDINGS —The proceedings of the last meeting of the Committee, held on the 20th January, 1920, were confirmed after previous approval in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON). —Letters dated 1st and 8th January, 1920, from the Indian Tea Association (London) which had been circulated, were now before the Committee for consideration. The principal subjects dealt with in these letters were the following:—

(*a*) *Scientific Department.*—In the letter of 1st January the London Committee stated that they had selected Mr. C. R. Harler, B.SC., A.I.C., for the appointment of chemist on the staff of the Department, and that he would leave for India about the 10th January. It was added that the engagement of an Agriculturist and of a Bacteriologist was engaging attention.

(*b*) *Preferential rates of Customs Duties in the United Kingdom in favour of Empire Products: Certificates of Origin.*—Copies of telegrams in this connection received from the London Association have recently been issued to members, and they were also printed in the proceedings of the last two meetings. When confirming the second of these telegrams, the London Committee now forwarded copy of a circular issued by them to their members, which was in the following terms:—

Referring to my circular letter No. A.-42, dated the 24th December, 1919, the Association having been informed that the Customs officials were refusing to accept Certificates of Origin signed by Calcutta Agents as agents for the growers of the teas, stating that such certificates are merely statements made by forwarding or carrying agents, and that all Certificates of Origin must be signed by the garden managers, the matter was taken up with the Customs authorities, and, I am now directed to send you, at foot, copy of a letter, dated the 2nd January, 1920, received from the Customs House.

The attention of the Customs was also drawn to the question of Calcutta bought teas, and it was pointed out by Mr. Grylls that the Supplementary Circular, given on page 10 of the Notice No. 27, issued by the Customs authorities in August last, was intended to apply to such teas.

Copy letter referred to.

With reference to your call at this office to-day in regard to Certificates of Origin for Empire tea, I am directed by the Commissioners of Customs and Excise to inform you that they are prepared to accept Certificates of Origin issued by the agents, provided:—

(1) that the certificate clearly indicates that the agents are authorised to sign on behalf of the growers, and

(2) that the certificate is a personal one, signed by a responsible member of the issuing firm as indicated in the marginal note (1) to the model form of certificate.

NOTE.—The marginal note, referred to in para. (2) above, reads :—

" (1) Insert the word Partner, Manager, Chief Clerk or Principal " Official, giving rank as the case may be, unless the person " giving the certificate is the sole proprietor of the business, " when the words in brackets may be omitted."

(*c*) *Rate of Exchange in closing* 1919 *accounts.*—In the letter of 8th January, it was mentioned that the London Committee had had under discussion the question of the desirability of tea companies adopting a uniform system when dealing with exchange in closing their accounts for 1919, as regards both revenue and assets. It was eventually agreed that it would be desirable if tea companies and estates fixed a rate that would represent approximately the average rate worked at during the year, and all members of the London Association had been recommended to adopt this course.

(*d*) *Restriction of exports from the United Kingdom.*—There have been printed, in the proceedings of the last two meetings, copies of letters on this subject addressed by the London Committee to the President of the Board of Trade and to the Director of Tea Supplies, Ministry of Food. The following further letters had, it was noted, been addressed to the President of the Board of Trade :—

With reference to my letter of the 1st December and to your reply, dated the 11th idem, (No. 38896 19 S.) in which it is stated that the question of removing the prohibition on the export of tea had been raised with the Ministry of Food, I am now directed to draw your attention to the fact that the Ministry of Food have agreed, for the month of January, to the removal from Tea Sale Catalogues of the clause " For home consumption only," and it is understood that, after seeing what result this has upon prices, they will consider the question of its permanent removal.

Notwithstanding the above decision by the Ministry of Food, it is still necessary to obtain licenses to export teas, and I am directed by my Committee to respectfully urge that all restrictions be removed, and that it be no longer necessary to obtain licenses to export teas from this country. It is understood that the Board of Trade are in favour of this course, but that they have not been able to give effect to it owing to the objection of the Food Controller in the past.

As was pointed out in my previous letter, the present stock of tea in this country is abnormally large, in addition to which the supplies which are due to arrive within the next two months from Northern India alone will amount to between 80/90 million lbs., so that there is no likelihood of shortage of tea ; in fact, as you know, tea bonded warehouses are completely congested, and ocean steamers are now lying in the river unable to discharge their cargoes, and the removal of *all* restrictions might relieve this congestion.

I am directed by my Committee to bring to your notice the serious state of congestion which prevails at present in the tea bonded warehouses. The stocks of all tea (in millions of lbs.) in warehouse at end of November as compared with previous years at same date were :—

1919.	1918.	1917.	1916.	1915.	1914.	1913.
184	122	37	151	75	125	132

Owing to shortage tonnage, Calcutta and Chittagong shipments of the Indian tea crop of Season 1919 were delayed, but in November more vessels were made available, and the shipment to the United Kingdom for that month aggregated 58 million lbs., whilst, in the first half of December, further shipments, totalling 24 million lbs., were made from Northern India ports. As the deliveries and re-exports in the past six months of all teas only averaged 38 million lbs. per month, the congestion, now so serious, will be aggravated when shipments on the way or in port are tendered to warehouses. Unless means can be devised to cope with the difficulty, incoming steamers are bound to be greatly delayed in discharging cargoes, as bonded space is inadequate to house the tea, and barges once loaded will not get cleared.

In these circumstances, I am to ask that the matter may receive immediate attention. My Committee urge that the freedom of export which prevailed prior to the war may be restored by abolishing the export license system, which so restricts and impedes the export trade in tea.

I am also to suggest that some relief may be secured by the Customs authorities agreeing, as a temporary measure, to accept duty payments on the basis of invoice weights, as was done in the case of War Office teas stored at Deptford and Millwall.

As arranged at last meeting, the Committee have addressed a representation on this subject to the Government of India, Department of Commerce and Industry.

THE FOOD CONTROLLER—(*a*) *Extra cost of production in 1918.*—The following telegram, dated 23rd January, had been received in this connection from the Indian Tea Association (London):—

63. Ministry Food agree to extra farthing per pound for London controlled companies Committee suggest you take up matter on behalf of rupee companies.

The Committee did not understand the distinction drawn in this telegram between sterling and rupee companies. Their interpretation of the contract was that the increase, if conceded, was to apply as a flat rate to the whole of Northern India, and this was borne out by the letter of 1st August, 1918, received from the Tea Commissioner for India, which was printed in the appendix to the proceedings of the special meeting of the Committee, held on 14th idem. It was accordingly decided to cable to the London Association as follows:

Your 63. Do not understand distinction between sterling and rupee companies. Refer page four proceedings special meeting 14th August 1918, also clause in contract. Our understanding is increase applies universally North India.

(*b*) *Disposal of Bills of Exchange against tea shipped on account of the Food Controller—Payment of premium for cover.*—Reference was made, in the proceedings of 25th November last, to the refusal of the Food Controller to admit liability for the payment of the premium paid for cover in connection with the negotiation of bills for tea shipped to him. This refusal had been intimated by cable, and it was arranged to await information from him in confirmation before deciding what action to

take. The Committee had recently asked the Tea Commissioner for India whether he had heard anything further from the Food Controller in the matter, and, in a letter of 31st January, the Tea Commissioner stated that he had not. He suggested that it might be well for the Association to ask the London Association to communicate direct with the Food Controller on the subject.

It seemed to the Committee that the question was one in regard to which there could be so little discussion that they hesitated to trouble the London Association by asking them to take it up ; and they decided to ask the Tea Commissioner, in view of the fact that he had heard nothing further from the Food Controller, to inform the latter that it was not proposed to allow the matter to rest as it at present stood, and that, if the Controller were unable to reconsider his view, those concerned would be recommended to request arbitration.

OCEAN FREIGHT AGREEMENT: TEA RATE FOR FEBRUARY.—A letter dated 29th January had been received from the Bengal Chamber of Commerce, intimating that the tea rate for February would be £8. 3*s*. 9*d*. Members of the Association had been informed accordingly by circular, and the letter was now to be recorded.

LABOUR RULES AGREEMENT FOR THE BRAHMAPUTRA AND SURMA VALLEYS.—In connection with the draft agreements issued in this connection for approval, several letters had been received from different firms asking for the elucidation of certain points. The letters had not yet been seen by all the members of the Committee, and the Secretary was directed to continue them in circulation. On general principles, however, the Committee were of opinion that it was not advisable for them to lay down hard and fast interpretations, particularly with reference to points which came primarily within the discretion of the arbitrators to determine.

SUPPLIES OF RICE TO TEA GARDENS IN THE SURMA VALLEY.—In reply to an enquiry which the Committee made as to the supplies of Burma rice likely to be required for gardens in the Surma Valley, the Chairman of the Surma Valley Branch had informed them that, for the next six months, approximately 50,000 maunds monthly would be necessary. He added that gardens should be urged to stock rice when obtainable even if not immediately required, that local supplies were inadequate, and that the bazar price was now Rs. 7 per maund, and was rising. The Chairman anticipated that, unless rice was allowed in sufficient quantity from Burma *via* Chittagong, the position would become grave.

The Committee decided to approach the Director of Civil Supplies, and to ask him to arrange direct shipment of Burma rice *via* Chittagong, in order to avoid an otherwise unavoidable scarcity.

OPTIONAL BILLS OF LADING.—In the proceedings of 7th August last, reference was made to a correspondence with the Calcutta Liners' Conference in this connection, the Committee having requested that there should now be restored to bills of lading the optional clause added in bills for teas shipped to London prior to the war. It was then explained that the Indian General Conference, London, to whom the matter had been referred by the local Conference had replied that, owing to unsettled conditions, it was not possible to comply with the request. The question had again been raised recently, and the Committee had addressed the Conference asking whether it was now possible to revert to the pre-war system. A reply was now to be awaited.

INDIAN TEA CESS COMMITTEE.—The appointment of Mr. A. D. Gordon as a member of the Indian Tea Cess Committee, in place of Mr. C. Rennison, was to be recorded.

SALTATION IN EXCELSIS.

WANTED. To demobilised officers and others. Wanted dancing partner, must be good dancer. Only pure Europeans need apply. Salary Rs. 250 per mensem. Interview could be given in Madras on 11th and 12th. Address left with Manager. Apply Box No. 1459, care of Manager, *Madras Times*.

Madras Times, 10th February.

I own it put me on the rack,
And tortured me with dire misgiving—
The thought of how, when they came back,
Those demobbed boys would earn a living.

But cheerio my bonny lads,
No more need you the gods importune
For planting billets: stop your 'ads':
The way lies clear to fame and fortune.

You've only got to skip and prance,
Shake the light toe, and learn high kickery,
Glide godlike through the mazy dance,
Vow yourselves votaries of Terpsichore.

With yielding Beauty in your arms,
Sip all the sweets, as bee sips honey,
Press the maid close: extol her charms
Mayhap 'twill end in matrimony.

And even if the damsel's plain,
Or coy, or if Papa is thrifty,
Remember still you stand to gain
That lordly screw, rupees two fifty.

So brave boys learn to pirouette
And prance like Massine or Lupino,
Then all your woes you can forget,
And have a high—*old*—TOP-HOLE beano!

F.

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(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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THE TRAVANCORE ADMINISTRATION REPORT.

Last year we reviewed in these pages the Report on the operations of the Department of Agriculture and Fisheries for the year 1093 M. E., but have not so far seen the Report for 1094. We have, before us, however, the Report on the Administration of Travancore for that year, together with a copy of the address of the Dewan to the sixteenth session of the Sri Mulam Popular Assembly, which opened at Trivandrum on Monday the 23rd inst. For those Associations situated in Travancore this Popular Assembly has

traditions, in spite of its sixteen short years of life. It has become year by year more and more important, though still restricted to its 100 members, and, whatever may have been the opinion of planters as to its utility a few years back, we do not think we are far wrong in saying that to ignore it now would be a false policy, from both the point of view of practical self help and from the moral aspect of helping the Travancore Government by supporting a popular measure and sharing in its success. It is for this reason that we had occasion recently to regret the decision of the Kanan Devan Planters' Association not to send a delegate to this year's Assembly. Even in such an earthly paradise as Travancore it seems incredible that the High Range Planters should have no grievances to ventilate, no petitions to lay before the Dewan for the improvement of conditions in their hills. Shade of A. J. Wright!! What has become of the Game Laws and the Devikolam-Peermade Road? Governments, proverbially, are deep sleepers. They require rousing, and once roused they need to be kept awake. For how many sessions have the Mundakayam and Peermade Planters hammered away at pet projects, seemingly in vain? But they will get them in the end; it is the only way, and it is for this reason that Mundakayam, successfully, petitioned the Government to give them separate representation, in the days when the District was only granted combined representation with Peermade.

This is a digression, and does not carry us far into the bulky report which again characterises the thoroughness of the administration in Travancore. We will leave for others the review of such Departments as Finance, Education, Justice, etc., and confine ourselves to a few remarks on those subjects more directly interesting the planting community. First, we will take Agriculture and Fisheries, which comes under the heading "Production and Distribution." The Soil Survey, to which we alluded last year, was continued, and the analyses completed of the samples collected in two of the most important paddy-growing centres of the State, Tovala and Agastiswaram. Besides this, 26 other samples of soil were analysed during the year, and these have again disclosed a deficiency in phosphoric acid, aggravated by the circumstance that the quantity of lime and humus present in these soils is also very limited. Mechanically, they show the presence of such a high proportion of clay as materially to lessen their fertility.

We may perhaps be pardoned for drawing special attention to the fact that a Mycologist was appointed towards the end of the year. He has been chiefly engaged in going through the papers relating to the root disease of the cocoanut palm. It is proposed, later on, to depute him for further training at the Imperial Research Institute, Pusa, so that he may be thoroughly equipped for the investigation of diseases of tropical crops. This is an appointment we have more than once advocated in these columns. Apart from the two main crops, paddy and cocoanuts, native planters in Travancore are going in largely for tea and rubber. The papers record, daily almost, the formation of new Companies for this purpose, and private owners everywhere are extending in these two products. With the commencement of the Madras Government's Experimental Stations in Peermade and Thenmallay and the Rubber Mycologist's Station at Mundakayam, it was becoming imperative on the part of the Travancore Government to make this move. The officials of the Mundakayam Planters' Association have paid a tribute to that Government's help in the matter of the Rubber Mycologist. It remains only for the planters to co-operate with the Government man, and we shall be really getting a move on. Oh, for those two elusive Mycologists!

The Department of Industries is another of the Travancore Government's advances which should be of immense use to the planter. Unfortunately, one of the few things in which he is interested, viz., Acetic Acid has not yet developed in manufacture, as was at one time hoped. During the war the price of this coagulant rose to some fabulous amount, in the region of Rs. 175 per 4½ gallon Carboy against Rs. 30 per Carboy in pre-war days. One would have thought this an excellent opportunity for the Department of Industries, but, although the matter was certainly taken up, nothing came of it. We have ourselves seen a serviceable acid made on the Estate by the dry distillation of cocoanut shells. It ought not to be difficult to place this Industry on a sound commercial basis, in a country flowing with the necessary raw material. Perhaps Japanese competition and the fall in prices after the war make it hardly worth while.

It would be fascinating indeed, to study the various activities of His Highness the Maharajah's Government to a degree far beyond that to which we can afford to devote our space. It must suffice to say that, in Travancore, the word benign is indeed something more than lip service. Benign, indeed, is this Government to all classes, fully alive to the progressive needs of modern times, favoured perhaps unduly by nature, but at all times generous and ready to listen to the humblest requests. It is ruled over by a Sovereign who lives in the hearts of his people, and whose personality is a pleasant recollection to hosts of planters. Let us hope that they will long continue to enjoy prosperity under his rule, in a country where the motto of the Royal House is "Charity our Household Divinity," and which is indeed a smiling country, charitably disposed to all men and capable of great accomplishments in the years to come.

THE SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Rubber Seed Selection and Thinning Out.

(*Continued.*)

The second paper is by Cramer and deals with some observations made on the results of thinning out rubber planted 21' by 21' as a coffee shade in Java. A translation of the paper appeared in the *Tropical Agriculturist, Vol. LIII, No. 5.* The trees examined were 14 years old, and growing at an elevation of 1,800 feet, and had never before been tapped.

The rubber from each tree was coagulated separately by the Brazilian method of smoking, and the first question asked was, in what proportion do good and poor producers contribute to the total crop. The poorest tree gave 512 grammes of rubber in the year, and the best 2,983 grammes, with an average yield of 1,328 grammes.

This again, as in Whitby's results, shows what a wide variation exists between the yield of individual trees and what a scope there is for selection. Here the total yield from 57 trees was 75,791 grammes, but had all the trees been as good as the best it would have been 170,031 grammes, an increase of nearly 225%.

The trees were arranged in groups according to the individual production going up with 300 grammes. This gave the following figures :—

Individual production of dry rubber. Grammes.				No. of trees in the group.	Total production of the group. Grammes.
0	...	300	...	...	...
301	...	600	...	7	3,760
601	...	900	...	10	12,084
901	...	1,200	...	5	5,772
1,201	...	1,500	...	8	11,024
1,501	...	1,800	...	7	11,580
1,801	...	2,100	...	7	13,738
2,101	...	2,400	...	2	4,420
2,401	...	2,700	...	3	7,536

When a line is drawn at the average, 1,328 grammes, it is seen that half the trees are above it and half below. The total production of the first half is 21,616 grammes and of the second half 54,175 grammes. That is to say, the poorest trees gave 28·5 per cent. of the crop, and the best trees 71·5 per cent. of the crop.

This variation being so, we come to the question, can we not distribute better the soil, the air, the moisture, and in general the plant food we dispose of for the trees, so that we take it away from the poor producers and give it to the good ones? This can obviously be done by thinning out the poor producers, the group above the line. If the planting distance is so close that the trees are too large for the space they occupy, they will take advantage of the increased space supplied to them at once, and, as by their character they can make more rubber under the same circumstances as their predecessors, they will increase their production more than would be equivalent with the production of the cut out trees.

The author comes to the same conclusion for his experiments which Whitby reached, *viz.*, that the large differences we meet when we compare the production of individual trees are chiefly caused by the initial character of the tree, and only in a small degree by the external conditions.

After thinning out half the trees, the average per tree rose in the following year from 1,328 grammes to 1,830 grammes, and in the year following to 2,403 grammes.

(Signed) RUDOLPH. D. ANSTEAD,

Deputy Director of Agriculture, Planting Districts.

SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Muriate of Potash.

In pre-war days in Bangalore, about July, one used to find a Tommy with an indeterminate looking puppy between his knees, industrially stroking

its nose and face the wrong way, and if you asked him what he was doing he would say:—"Well Sir, it's like this. These 'ere planter blokes will be coming down next month, and they all wants bull dorgs!"

During the last four years we have been unable to get any potash fertilisers and, now that they are becoming available again, there are a lot of "planter blokes" who want to buy them, and I have been put in mind of the Tommy and his bull dorg by a circular issued by my good friends, Messrs. Parry & Co., on the merits of Muriate of Potash as compared with Sulphate of Potash; not that I mean to say for one moment that Muriate of Potash is not a good fertiliser; for, it is an excellent one and will suit our purpose very well. My friends have got something to sell and, quite naturally, make out the best case for it they can. That is where the "bull dorg" comes in; and some of the statements in this pamphlet will hardly pass muster. Thus, it is claimed that the presence of salt in Muriate of Potash is an advantage, and that the use of Sulphate of Potash leaves "sulphuric acid in the soil," which may be harmful.

Now this does not tally with the opinion expressed by most agricultural authorities. Thus, Ingle says, "common salt is usually regarded as possessing no real manurial value, but as owing what merit it possesses to its action in promoting the decomposition of potash, lime and magnesia compounds in the soil." Even for cocoanuts, Dr. Copeland, in the Philippines, contends that it is a mistaken idea that they need salt.

Now when potash fertilisers are added to the soil, inter-action between the potash salts and the calcium and other bases in the soil begins immediately, resulting in the retention of the potash and the formation of more or less soluble calcium chloride or calcium sulphate, depending on whether Muriate or Sulphate of Potash was used. Ingle says that "calcium chloride has an injurious action upon plants, while calcium sulphate is of course harmless." Moreover, calcium sulphate which is formed (and not sulphuric acid by the way) also has the power of liberating potash from the double silicates in the soil and it promotes nitrification, so Muriate and Sulphate in this respect are about quits.

Again, we find Murray saying that "on most of the common agricultural crops the effects of chlorides are deleterious rather than beneficial. If Sulphate of Potash can be obtained at the same price per unit as Muriate, preference should perhaps be given to it, but for most ordinary purposes there is probably very little to choose between them.

The truth of the matter is that, for plantation purposes, it does not matter in the least which potash salt, Muriate or Sulphate, is used. Muriate has the advantage of being more diffusible in the soil, but in most other respects the Sulphate is just as good, if not preferable. It is a question of price, and the form with the cheaper unit should be chosen. Muriate is quite suitable for our soils, and can be used just like Sulphate, at the same rates of application and in the same way, and may be mixed with most other fertilisers. The pre-war price was round about Rs. 160 per ton, and it is to be hoped that it will soon regain that price, now that the control of the potash depositsis in the hands of the Allies instead of the Hun.

(Signed) RUDOLPH. D. ANSTEAD,

Deputy Director of Agriculture, Planting Districts.

CRICKET IN COIMBATORE.

To many people one of the most lamentable effects of the War was the cessation, in part or in entirety of many forms of sport. In this country, sport generally, we speak of the planting districts, is confiend to Shikar and tennis, pastimes at which the older generation as a rule excel, and the departure of the young men did not affect them to any great degree. With cricket, however, it is another story. The grand old game, so essentially English, so much a part of our nature, was seldom played, even in the piping times of peace, owing of course to the difficulty of finding ground space, even if a good pitch could sometimes be managed. In the High Range, however, these difficulties did not present themselves so forcibly, and the result has been that the District has cricket traditions cherished none the less for the fact that so many men, during the last four years, have wielded strange weapons in exchange for the willow and the red leather. It is, therefore, with undoubted pleasure that we place on record in the pages of the *Chronicle* the match which took place on Sunday last, between the Coimbatore Gymkhana and the High Range Club. If our memory serves us correctly, this is the first occasion on which the *Chronicle* has departed from its customary realms of highbrow planting for the lesser regions where they play cricket. We have, on occasion, trotted out our tame artists, poets, etc., and sent them forth on strange journeys of adventure into hitherto unknown territory, but it was not so easy to find *Our Own Correspondent* in the World of Sport. Once discovered in his lair, however, and having removed from his face the fungus of many years, (you see we cannot get along without a reference to the scientific side) he consented to do a job of work for once, and, having got the above off our chest, we will delay no longer, but will forthwith introduce him and his work, an account of the Coimbatore Gymkhana *versus* High Range Match, in his best and only style, by *Our Own Correspondent.*

Coimbatore,

Monday, 23rd February, 1920.

The apparently long anticipated match against the High Range is at last a thing of the past, and one more memory is added to those cherished by the High Range Club, particularly as, on Sunday morning, defections on both sides left the teams each a man short. By a mere coincidence (though one of them is still convinced it was a deeply laid plot) two substitutes were found in the persons of the Hon'ble Mr. J. A. Richardson and the worthy Chairman of the U. P. A. S. I., Mr. A. S. Dandison, their presence on the field at once raising the Match to the class of one to be remembered, even before the commencement and irrespective of what the result might be. The visitors arrived in various stages and vehicles on Saturday, in good time to afford them a little rest after the long and dusty journey, very dusty it must have been judging by its effect, and the afternoon was devoted to just doing nothing, combined with a little bridge and tennis. Poor Jungle-wallahs; at tennis, in the safe, open air of the tennis courts, they acquitted themselves as one expected of them, but the carefully woven web of the Coimbatore Spiders was too alluring for the High Range fly, and he walked into the bridge room, all unsuspectingly, a doomed man. But that is not our muttons, to which we must return. It was arranged to play on Sunday between 8 and 11 a. m., avoiding the heat of the day and recommencing at

2 p. m., stumps to be drawn at 6-15. One of the officials of the Coimbatore Club having successfully doped the Captain of the visiting team (at least he was accused of doing so) at 8-30 the game commenced, W. J. Dixon losing the toss in the absence of his Captain and one other. The missing Members turned up however just in time to see the first ball going down, Simon facing W. J. Dixon. A quiet over, during which the unfortunate gentleman fielding at mid-on got one in the-er-abdomen from the Coimbatore batsman. Most disrespectful treatment to hand out to an Hon'ble Member, and then to be accused of dropping the catch. It was too much. The Hon'ble gentleman had the satisfaction, however, of seeing his enemy bowled by Dixon two overs later. Runs came slowly till Chetham-Strode had been stumped by Pinches off W. J. Dixon, and Wimbush joined Anstead. These two made merry for half an hour or more, and the score had reached 118 before they were separated, Bridgman bringing off a fine catch in the long field off Keir, thus dismissing Wimbush, and Anstead falling to a catch soon after. The Coimbatore tail managed to hang on for a bit, but did not wag, and the innings closed at just on eleven o'clock for 145. R. D. Keir was the most successful bowler, taking six wickets for 35 runs.

The teams adjourned for lunch at the Club, and play was resumed at 2-15, the High Range sending in Swayne to face Anstead, and at the other end W. J. Dixon. The former batsman was caught at the wicket off Anstead, and A. H. Dixon, who followed, fell to Chetham-Strode soon afterwards. As in the Coimbatore innings however, the fall of the second wicket was the signal for a more lively display of cricket; and. G W. Cole and W. J. Dixon quickly brought the score to 87, when Cole was unfortunately run out. Again the tail could only muster a most feeble wag, though Blair Hill raised hopes by slashing one or two to the boundary. It was a short life, however, and, with his dismissal, the innings closed at 111, permitting the Hon'ble Member to carry out his bat for a well merited 2, a late cut in the very best style. Chetham-Strode bowled well for Coimbatore, taking 6 for 44. It was only 3-15 or so, and the home side opened their second innings with Ballard and Anstead. Two wickets fell rapidly, and it looked like a rot setting in till Norris joined Anstead. They brought the score to 56, Norris being out 1. b. w. for a well made 26. Again Wimbush joined Anstead, and the performance of the first innings was repeated. Neck and neck their scores mounted up, till at 5 o'clock the Coimbatore Captain declared at 130 for 3 wickets, having himself made 47, to Anstead's 41. This left the High Range 165 to get to win, and, with an interval for tea, gave them an hour in which to do it. They made a gallant attempt. Losing Cole off Wimbush (c and b) with the first ball of the innings, the brothers Dixon improved matters considerably, and altogether it was bright cricket all through. 104 for 6 wickets in exactly an hour keeps one cheerful, and one could almost wish further time had been possible. It is a moot point whether the remaining 60 runs would have been forthcoming, but in any case it would have been a close thing, so close that one can hardly claim a victory for Coimbatore merely on the first innings lead.

There was a rumour that the time-keeper was offered a bribe to put the clock back, but its authenticity is doubtful.

Altogether it was a most successful week end. The visitors, it is hoped, got some compensation for their long journey in the enjoyment of the game, certainly the Coimbatore team and the Members generally of the Club were delighted with this visit, which they trust will be repeated next season.

The full scores are appended :—

COIMBATORE.

R. D. Anstead	...c. Hill b. Keir	... 49	...Not out		... 41
L. J. Simon	...b. W. J. Dixon	2	...1. b. w.—b. Dixon		... 9
R. W. Chetham-Strode	...St. Pinches b. W. J. Dixon.	11			
A. Wimbush	...c. Bridgman b. Keir	... 48	...Not out		... 47
R. V. Norris	...b. Keir	... 10	...1. b. w.—b Cole		... 26
M. A. Singara Iyengar	...b. W. J. Dixon	... 9			
E. Vincent	...b. Keir	.. 1			
W. Wardlaw	...c. Pinches b Keir	3			
A. S. Dandison	...b. W. J. Dixon	... 0			
Sergt. Williams	...b. Keir	... 0			
E. Ballard	...Not out	... 0	...c. & b. W. J. Dixon		... 1
	Extras	... 12	... Extras		... 6
	Total	... 145	... For 3 wickets		... 130

Innings declared closed.

ANALYSIS OF BOWLING.

	O.	M.	R.	W.	O.	M.	R.	W.
Dixon	... 12	2	23	4	9	1	44	2
Keir	... 15	4	35	6	4	0	17	0
Cole	... 9	1	28	0	3	0	19	1
Koechlin	... 1	0	8	0		.....		
Bridgman	... 4	0	27	0		.....		
Dixon	... 4	0	15	0		.....		
Strachan	...	.....			4	0	27	0
Blair Hill	...	.....			2	0	17	0

HIGH RANGE CLUB.

W. J. Dixon	...b. Singara Iyengar	16	..c. Simon b. Anstead	28
J. C. Swayne	...c. Vincent b. Anstead	2	...b. Anstead	9
A. H. Dixon	...b. Chetham-Strode	7	...b. Wimbush	21
G. W. Cole	Run out	48	...c. & b. Wimbush	0
H. L. Pinches	...c. Norris b. Chetham-Strode	0	...Not out	8
J. M. Bridgman	...c. Norris b. Chetham-Strode	0	...Not out	6
G. R. Strachan	...b. Chetham-Strode	8	..b. Anstead	24
R. D. Keir	...c. Simon b. Chetham-Strode	2		
M. C. Koechlin	...b. Chetham-Strode	0		
A. Blair Hill	...c. Williams b. Singara Iyengar	10	...b. Chetham-Strode	5
J. A. Richardson	...Not out	... 2		
	Extras	... 16	Extras	... 3
	Total	... 111	For 6 wickets	... 104

ANALYSIS OF BOWLING

	O.	M.	R.	W.	O.	M.	R.	W.
Anstead	... 7	1	21	1	4	0	13	3
Chetham-Strode	... 13	1	44	6	6	0	32	1
Singara Iyengar	... 7	1	27	2		.....		
Wimbush	...	.....			6	0	37	2
Simon	...	.....			4	1	18	0

NOTES AND NEWS.

THE PRIME MINISTER AND AGRICULTURE.

In one planting community of Southern India, their motto is "always Merry and Bright." Should any other district be looking for a motto we would recommend the following sentences from the Prime Minister's address to Agriculturists at a Conference held under the auspices of the Board of Agriculture and Fisheries, at Caxton Hall, on 21st October, 1919.

"There are difficulties in the way of doing anything always. The "only thing which is not difficult is to do nothing,"

and this:—

"Confidence is the best fertiliser of the soil."

MR. R. D. ANSTEAD.

The Deputy Director of Agriculture, Planting Districts, is granted one year's leave from 10th April, says a Gazette notification. We understand his work will be carried on by Mr. Parnell, Economic Botanist, Government of Madras, on his return from leave shortly.

PLANTERS' CLASSES, 1920.

With reference to our note in last week's issue, we understand from the Prospectus of the North of Scotland College of Agriculture, that the subjects of Mycology and Entomology have been included in the course. The classes will be given between the 4th May and 20th June next.

CEYLON TEA.

Extract from the *Ceylon Chamber of Commerce* weekly Price Current showing particulars of tea railed to various destinations from Colombo for the weeks ending 2nd and 7th February, 1920:—

Madras	...	500 lbs.
Adirampatanam	...	582 „
Trichinopoly	...	163 „
Cannanore	...	3,250 „
Tellicherry	...	780 „
Ayyampet	...	410 „
Kumbakonam	...	500 „
Total	...	6,185 lbs.

SCIENCE AND PRACTICE.

The British Association for the advancement of science, in reviewing the results of scientific methods applied to military and other practical arts, recognises that the successful issue of the war had sprung from the efforts of scientific men concentrated on these problems, and, with the conviction that the well-being and security of the nation are dependent on the continuous study of such matters, would urge on His Majesty's Government the necessity for apportioning an adequate sum from that allotted to home administration and the upkeep of the fighting forces, for the purpose of definitely organised schemes of research, as for example on problems con-

nected with health, *food and commerce*, in explosives, in chemical warfare, and in physical and engineering problems bearing on military work.

RUBBER IN THE FRENCH COLONIES.

We have, from time to time, published details of the work done by the Colonial Institute of Marseilles for Rubber Planters in the French Colonies. Mr. G. Van Pelt, Chief of the Rubber Section of the Institute, has just returned from a mission to West Africa, where he examined the conditions under which the exploiting of African Rubber is carried on. In the case of vines like *Landolphia*, his opinion, previously expressed, that they should undergo a mechanical washing and cleaning before leaving Africa is confirmed by his observations on the spot. For tree rubbers like *Funtumia*, Mr. Van Pelt has put forward a method of manufacture by which the natives can produce these rubbers in the form of thin sheets, enabling them to realise prices which would render possible the continuance of the industry, notwithstanding the competition of Plantation Rubber. The question of supplying the native rubber-growers with the small machines necessary is under consideration.

THE LABOUR ACTS.

A. G. O. states :—" Under section 4 of the Madras Planters' Labour Act, 1903, the Governor-in-Council is pleased to authorize Mr. Edwin Vincent, Superintendent, U. P. A. S. I., Labour Department, Coimbatore, to attest the execution of Labour Contracts, in the Coimbatore District "

ASHES.

The Superintendent, Sandalwood Oil Factory, Mysore, has a large quantity of boiler ashes, got by burning firewood, paddy husk, and sandal spent-wood, available for sale on the factory premises. He would be glad to know if any planters require same, and, if so, would request them to send offers per ton, noting the number of tons required.

THE LABOUR DEPARTMENT.

The Secretary, U. P. A. S. I., was called away to Palamcottah on Monday last by the news of the serious illness of Mr. C. S. Prince, U. P. A. S. I., Labour Superintendent of the Tinnevelly and Nagercoil Divisions. We have unfortunately to announce that Mr. Prince's illness precludes the possibility of his return to work for some time yet, and the Labour Department is thus deprived of the services of one of its most zealous and hard-working officers.

Mr. A. G. A. Dunning, who joined the Department recently, has been posted to Palamcottah to relieve Mr. Prince, and left Coimbatore on Thursday last. Mr. Waddington hopes to return to-day. Correspondents will excuse the delay that must necessarily occur in certain matters when plans are upset in this unfortunate and unforeseen manner. We must all hope that Mr. Prince will quickly regain his health and rejoin his duties. The Department has been unfortunate in respect of the health of its officers. Quite recently Mr. Bartels, in charge of the Chingleput Division, left for home on medical grounds. Mr. J. D. Brewer was appointed to act for him so that continuity has been maintained in that Division.

WORK,

BY

W. BURNS, D. Sc.

A cynic once remarked to me that he regarded his work as something for filling up his time until he died. He was apparently willing to wait for his natural end, but certainly such a view of work would not conduce to any great hold on life. What is work, and what ought it to be? We do not need to go to Webster's dictionary for its definition. We know it well, theoretically, and in most cases, practically. Is it a function peculiar to man? That depends on our point of view. A herbivore works in eating grass and a carnivore in pursuing its prey. Both act according to instinct and their imperious appetites. Do we work when we eat? The scoffer will say that that depends on the toughness of the meat. But joking aside, the immediate end of work is to get something to eat. If we have that without working for it, then there is no compulsion to work. Food, clothing, shelter, in a word, the necessaries of life, are the things for which we work. Now the animal gets its food directly. Unless we grow our food we do not get it directly, unless we build our house with our own hands we do not get our shelter directly. In a complex modern society, we get few things directly. We serve others in some way, they pay us for our work, and we spend the pay in getting the means of subsistence.

If we are able to choose the way in which we shall serve society, then we are indeed favoured, for thus we ought to be able to make our life a very pleasant one, gaining our bread by that labour which is most attractive to us. Wherein consists the attraction of any given occupation? That is a difficult question to answer. Some occupations appeal to the love of adventure. Such are sailoring and soldiering, ranching and exploring. Others appeal to the desire to create or to make, such are carpentry, mechanical pursuits, arts of all sorts. Thus we might pass in review all the possible trades, but it would not be possible to define accurately the charm of each. That is often something peculiar to the individual who makes the choice. There is however a certain community of ideals in all real workers. Let us examine some of these.

In the first place, no worker is satisfied unless he has had a thorough training for his particular work. He may get this training in one or more ways. He may be trained at a college, in a shop, or from books; but in all cases the thing worth remembering is that the man trains himself. All teachers are aids and guides. If there is no will in the learner, then the training is faulty. In all training there is drudgery. There is no royal road to proficiency in any activity under the sun. One must sweat at the same thing until one can do it to perfection, one must con the same lesson till one remembers it by heart, one must make mistakes in order to learn to avoid them. If this preliminary drudgery is avoided, or any short cuts to proficiency taken, then, while the superficial result may be the same, the actual condition of the worker is rotten, and his power over men and material is reduced to very little. In time of stress this will show, and the unprofitable servant will be dismissed. Complete equipment for one's job in life is got only by sweat and blood. A firm grasp of foundations and principles is worth everything. A knowledge of neat dodges is worth nothing.

It is essential, in such training, that a man should do everything that is likely to come into his line of work later. No man can supervise or direct unless he knows what it feels like actually to do the task himself, under the severest conditions. It is not enough once to have handled a plough. It is necessary to be able to do it as if one's bread depended on it.

If this preliminary training is sound it need never be, repeated unless, there is some particular action that one desires to perform again for pleasure or experiment. The worker can now go on to the higher and more interesting branches of his work.

The second thing that strikes one about all good workers is that they regard their labour as a form of Art. Not only must it be done, but it must be done with style and finish. Orderly perfection is the keynote of good work. This applies to any form of activity. It is never too early to begin this striving for style. The student should attempt it in his note taking, his dissection, his drawing, his ploughing, his pruning, and his digging. It is an excellent discipline. He will find that the spirit of the thing will gradually inform his whole life, that he will be dissatisfied with his old slipshod ways of living, dressing, and thinking. He will grow into a man.

The third thing noticeable is that, to good workers, the work itself is their great reward. The worker is certainly worthy of his hire, and his pay should be in accordance with the value of his work, but, when his wants are satisfied, it is the work itself that is the great end of the worker's life. This world of ours opens up ever greater avenues for conquest in science, commerce, art, literature, and exploration. To the trained man, nothing is impossible. To the dillettante, nothing is possible, save a few inaccurate observations, a few blunted conclusions, a few badly arranged sentences, a few poorly cultivated fields. Everything hinges on the training and equipment of the man. Thus we come back to our first point. For, without it, the others do not follow.

This may read like a sermon, but it is ordinary experience.

(Poona Agricultural College Magazine)

The Pentland Portrait Fund.

Further donations received by the Secretary, U. P. A. S. I., are as follows :—

	Rs.	A.	P.
Nilgiri Planters' Association	50	0	0
Wynaad ,, ,, ...	50	0	0
Central Travancore Planters' Association ...	50	0	0
Total Rs...	150	0	0
Amount previously acknowledged Rs...	605	0	0
Grand total Rs...	755	0	0

Cheques should be made out payable to the Secretary, U. P. A. S. I., Coimbatore.

Mr. C. S. PRINCE.

We regret to learn by telegraph that Mr. C. S. Prince died at Palamcottah on the 27th instant.

MARKET REPORTS.

We had hoped to include mail week news in this issue's Market Report, but have been disappointed as the papers will not reach us until after the "Chronicle" goes to press, and must content ourselves with a few observations on the month old reports from our London friends. With regard to coffee, it is interesting to compare these reports with our weekly cable. Thus, writing under date 22nd January, Messrs. Leslie & Anderson quote East India Bold Greenish 157s. per cwt. Our cable, dated 23rd January, gave the price of "A" Coffee at 161s. per cwt. on a firm market. Again, on 29th January, the above firm says:—A small lot of Mysore "A" Coffee was sold at 172s. whereas our cable dated 30th January quotes only 165s. per cwt., firm. The fact is, of course, that the coffee offered recently for sale has been of poor quality, as we shall see presently from various reports, and only a few parcels of particularly good standard fetch the higher prices quoted. When 157s. was offered, as mentioned above, we are told that offers from London at about 175s. to 180s. per cwt. c. f. i. might tempt planters, but this was considerably above buyers' ideas at home, although Messrs. Leslie & Anderson express no surprise at the equivalent of this being paid for Fine East India Coffee when it arrives. Later, they say that the relatively small East India crop will be keenly competed for in auctions when it arrives, at fine prices, so that we may say our cable this week, quoting 173s. on a *very firm market*, is a forerunner of good things to come for the Coffee Planter. We hear talk on all sides of 200s. per cwt. in the near future, and for our part see no reason why this figure should not be exceeded.

Locally we have heard of a recent sale of a large lot at Rs. 60. The fall in price was not unexpected, with the exchange tumbling as it has done, but there is little business doing, sellers being disinclined to accept buyers' ideas of reduced prices.

In concluding the coffee section of this article, we publish extracts from the *Produce Markets Review*, which always has something new and interesting to say of this product.

London, 24th January, 1920.

"The present indications are that we shall have to rely very largely on Nairobi and Uganda coffees during the coming season, as there is still no news of any Costa Rica or Mysore afloat on the usual scale at this time of the year. Washed Santos was sold, at auction, at the record price of 152s. for "O" size and 149s. for "A," and Nairobi at over 160s. There is a fair supply of second-hand parcels of Colombian and other Central American descriptions which, if carefully selected, will help out the short supply of Costa Rica."

London, 31st January, 1920.

"The position is still more difficult for the grocer, as prices have again advanced, and coffees suitable for home trade are becoming scarcer. It is reported that the f. o. b. price of East Indian is now 165s., and the reserve on parcels of this description in sale during the week was 170s., though the quality in most cases was poor—in one case 172s. was paid. Washed Santos sold up to 155s.

We would again point out that market quotations are of little use as a guide to the grocer, as the various grades are described from an export point of view. "Bold Colory Costa Rica," for instance, may be soft light coffee of poor quality, or even unclean, and the reported selling price is therefore no indication as to the value of a sound, hard, well made parcel, good in cup and otherwise desirable. There was nothing of this description offered this week, and such parcels, changing hands privately, are not quoted in the Press."

LONDON COFFEE RETURNS.

—	Home Consumption.		Export.		Stock.	
	1920	1919	1920	1919	1920	1919
For week ended January 24 ...	Tons. 340	Tons. 274	Tons. 130	Tons. 59	Tons. 19,243	Tons. 18,886
For 4 weeks ended January 24 ..	1,437	949	1,283	409	...	...

OFFICIAL STATISTICS OF THE COFFEE TRADE OF THE UNITED KINGDOM.

—	1 month ended Dec. 31.			12 months ended Dec. 31.		
	1917	1918	1919	1917	1918	1919
Imports ...	Cwts. 2,687	Cwts. 34,024	Cwts. 39,713	Cwts. 547,455	Cwts. 159,304	Cwts. 1,055,218
Home Consumption ...	41,255	21,262	21,569	421,869	456,278	315,477
Exports ...	3,958	4,480	32,733	113,544	30,181	629,888
Total Deliveries...	45,216	25,742	54,302	535,413	486,459	945,365
Stock on Dec. 31.	1,142,000	617,000	706,000	...	...	...

Tea.

This market has shown some irregularity, and, without being able to point to anything very definite, opinion is expressed that prospects are not so bright as they were. Competition has not been so keen, and a considerable amount of tea was withdrawn at auctions. It is pointed out

that this does not help matters, in view of the large quantities coming forward. At the end of January the tone was a little better, and the market generally firmer, although no definite change in prices could be quoted. There was no auction of Java tea.

The Indian Tea Association publishes the following figures for information :—

EXPORTS OF INDIAN TEA FROM CALCUTTA, CHITTAGONG AND SOUTH INDIAN PORTS.

		1919. lbs.	1918. lbs.	1917. lbs.
Sailings to Great Britain from Calcutta in Dec., 1919. Black	31,478,904	31,478,904	3,608,838	28,966,874
Green	*Nil.*			
Sailings to Great Britain from Chittagong in Dec, 1919. Black	9,321,434	9,321,434	*Nil.*	*Nil.*
Green	*Nil.*			
Sailings to Great Britain from 1st April to 31st Dec., 1919 (including Chittagong)		253,054,708	197,493,463	152,836,959
Sailings to Australia and New Zealand in December, 1919		2,509,772	677,390	1,564,028
Sailings to Australia & New Zealand from 1st April to 31st December, 1919		3,208,658	6,749,451	6,938,861
Sailings to North America in Dec. Black	2,711,784	2,711,784	361,866	559,708
Green	*Nil.*			
Sailings to North America from 1st April to 31st Dec., 1919		10,431,924	2,301,231	39,081,460
Sailings to other places in Dec., 1919. Black	587,473	590,473	1,595,505	2,062,256
Green	*Nil.*			
Sailings to other places from 1st April to 31st Dec., 1919		8,028,538	12,864,477	22,899,448

The following are the shipments from Southern Indian Ports during the month of December, 1919, *viz* :—

Cochin—		
To London...	931,411	
Asiatic Ports.	29,076	
		lbs. 960,487
Tuticorin (direct)—		
To London...	1,412,069	
Colombo...	149,575	lbs. 1,561,644

			1919. lbs.	1918, lbs.	1917, lbs.
Quilon—	*Nil.*				
Alleppey—	*Nil.*				
Calicut—					
To London...	1,160,419				
Aberdeen...	1,110				
Glasgow ...	1,110				
Bombay ...	20,767				
Kathiwar...	100				
Colombo ...	90,478	lbs.			
		1,273,984	3,796,115	3,858,526	1,724,942
Do do from 1st April to 31st December, 1919		...	22.860.946	29,569,725	16,545,257
Total sailings from 1st April to 31st December, 1919		...	297,584,774	248,978,347	229,301,985

* Exports of Tea from Ceylon as per *Ceylon Chamber of Commerce* Price Current Figures.

Total Exports from				lbs.
1st January to 19th January, 1920		...	Black	2,765,483
Do	do	...	Green	25,124
Do	do 1919	...	Black	2,830,882
Do	do	...	Green	12.288
Do	do 1918	...	Black	4,333,815
Do	do	...	Green	*Nil.*
Do	do 1917	...	Black	1,952,406
Do	do	...	Green	14,715

* These figures are obtained from manifests completed up to 19th January; incomplete manifests prior to that date are not included.

Rubber.

There is little of interest to report in this market, which fluctuates weekly. A sharper demand towards the end of January sent prices up, and the market closed firm at 2s. 9½d. to 2s. 9¾d. Stocks for the week ending 17th January showed a slight increase at 21,686 tons.

Minor Produce.

PEPPER.—Our information is that Black pepper has been quiet, but prices are steady. A few small parcels of Alleppey and Singapore sold at auction at about previous rates. Spot prices are slightly below the parity of forward. White pepper has been in fair demand. Messrs. Leslie and Anderson quote 1s. 1¼d. on the spot for Tellicherry black, and say that stocks in London are approaching 6,000 tons, against a normal stock of 2,500 tons. The market is firm seeing offers from the Far East are fully 1d. per lb. above spot values in London.

CINCHONA BARK.—Meagre supplies have led to high prices being obtained, and there seems little prospect of a decline in view of this.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

Cattle Manure.

Dear Sir,—I shall be obliged, if some of your readers would give me the benefit of their experience with regard to the bedding of cattle for obtaining satisfactory cattle manure.

No one will deny, I think, that cattle manure is beneficial to coffee, and the better it is preserved, the more beneficial it is. There is, however, a limit to its manurial properties, and, under some circumstances, it may cost more to place under our coffee trees than it is worth. In some places it is the custom to put out plain cattle manure. No earth, straw or mulch of any kind is employed, but the manure is taken up every morning and thrown into a covered pit until it has rotted, and it is then applied to the coffee. Such cattle manure must be strong, and, not only are the wages of bedding coolies saved, but when the pit is cleaned out, the minimum of rubbish is carried or carted away, so carrying and carting charges are reduced. Moreover a smaller quantity of this rich manure is required per tree. Against this system is the fact that a lot of urine must be wasted, and so a lot of ammonia is lost. Some estates, on the other hand, seem to me to go to the other extreme. A large number of coolies (comparatively speaking) are employed to carry mulch or "suppu" to the cattle sheds. The so-called cattle manure is thus turned out in large quantities, and, from its bulk, it is often impossible to keep it under cover, and accordingly the sun and rain remove much of its goodness. Owing to its bulk, too, it is expensive to cart and carry, and it cannot be otherwise than a very weak mixture when applied to the soil. Taking everything into consideration, bedding coolies' wages, cost of carting, cost of digging pits, and applying this stuff, I do not think it pays.

What I should like to know is, what is the happy mean? Is it necessary to cart or carry "suppu" into one's cattle sheds every day of the week, and how many headloads of "suppu" are required for, say every twenty head of cattle? Is earth a better bedding in the dry months? It should absorb moisture better than leaves and sticks, but, has it got as much to give the coffee as the "suppu," weight for weight, when put out as cattle manure?

I know that circumstances alter cases. One estate has cart roads everywhere, and another has none, and so on, but very few of us are oversupplied with coolies, and, not only would it be a consideration if some could save unnecessary bedding coolies, but, if cattle manure is being put out too weak, an unnecessary number of coolies are being employed in applying it and digging the pits to receive it.

"SKAGS."

II

Dear Sir,—With reference to the letter from "Skags" which you have referred to me, in making cattle manure, it is of the utmost importance to preserve the urine. This is the most valuable part of the manure, and contains most of the nitrogen and potash; 57 to 79 per cent. of the total nitrogen in the food of animals is excreted in the urine, and 26 per cent. or so in the solid excrement.

The best way of preserving the urine is to absorb it with litter, but too much must not be used, or the manure will be too dry and not decompose with sufficient slowness, and thus lose its full value. The manure should be always thoroughly moist throughout its bulk. The final product should be black and of a mellow consistency and thoroughly rotted, so that it can be cut with a knife.

Probably the box system of making it is the best, in which the litter is placed under the animals, who compact it with their feet. Enough litter should be used to absorb all the liquid matter, and a certain amount of dry earth may be also used.

Where and when litter is difficult to obtain, or too expensive to collect, the following method may be adopted: On the floor of the cattle shed is spread six inches of fine, dry earth, kept in position by means of a plank of wood of the same depth. The earth absorbs the urine and retains the nitrogen, and becomes therefore a valuable manure. The surface of the layer of earth should be kept loose and powdery by stirring it daily with a *mamottie*. The resulting manure should be stored in a pit or spread on the field after it has been allowed to lie for about a month in the stall, and a fresh layer should be put on the floors.

A combination of this method with the box system would probably solve the difficulties raised by "Skags." It is not possible to lay down exact rules as to how much litter should be used, and individuals must learn this for themselves by practical experience.

I would refer those interested in this subject to the following literature, which will be found useful and instructive:—

Planters' Chronicle, Volume V, page 42.
" " " VII, " 47.
" " " X, " 168.

Madras Agricultural Department.

Leaflet No. 14 of 1911. The preservation of farm-yard manure.
Leaflet No. 8 of 1910. Note on the conservation of cattle urine.
Bulletin No. 31. The care and management of farm manure in South India.

Yours faithfully,

RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 24TH FEBRUARY, 1920.

176s/- per cwt. Market is very Firm.

THE SOUTH INDIA PLANTERS' BENEVOLENT FUND.

It is now as far back as October last, nearly five months, since we drew attention on this page to the waning interest which planters were taking in this Fund, and in view of the approaching termination of the U. P. A. S. I. financial year, it is interesting to study the result of this appeal and the subsequent endeavours of the Secretary of the U. P. A.

S. I. to place this Fund on the really sound basis which is so necessary for its future existence. For the purpose of comparison, we will repeat the figures of former years, which we published last October, combining subscriptions and donations ;—

		Rs.
In 1913	Jan./Decr. ...	2,673
1914	do. ...	1,720
1915	do. ...	3,340
1916	do. ...	2,680
1917	do. ...	1,308
1918/19 (15 months)	...	1,703*

*i.e., from 1st January 1918 to 31st March, 1919.

Now the balance at the credit of the Fund on April 1st, 1919, was Rs. 17,241-7-10. and at the end of January 1920, we are informed by the Secretary, it was Rs. 19,226-15 11. The fund has, therefore, risen by the difference in these two amounts, viz , Rs. 1,985-8-1 plus the disbursements by way of relief, printing charges, etc., Rs. 2 841-4-11. These two latter amounts make up a total subscription to the fund from 1st April, 1919, to 31st January, 1920 of Rs. 4,826-13 0. This compares very favourably with the amounts subscribed yearly since 1913, but we must not hasten to congratulate ourselves, because, in 1910/11, Rs. 5,984 were collected, and we have, therefore, some way to go before boasting of beating the record of any one year. Still, it must be remembered that, of the Rs. 4,826-13 0 collected this year, the greater portion, nearly Rs. 4,000, was collected after our appeal in October, so that in 3½ months a sum of money was collected which is only second best to the record year. We may fervently hope that the remaining two months' accounts (February and March) will show that, over the twelve months, the record has indeed been passed. Still, it is obvious that, successful as the appeal has been, there must be no relaxation of effort on anyone's part, that indeed would spell disaster, and we hope Honorary Secretaries of District Associations will not forget this. We have deeply regretted, in the last few weeks, being unable to record in our "Notes and News" the advent of further patrons, though we are glad to learn that increasing numbers of the ordinary subscribers are supporting the fund. It is to be hoped that the shot is not spent, that the magnificent response is not to die out, and it is to this end that we have chosen this topic for our leading article to-day.

Our Ceylon Contemporary, the *Planting Gazette*, Official Organ of the Planters' Association of Ceylon, is equally perturbed over the position of the Planters' Benevolent Fund in Ceylon, and publishes in a recent issue the

following financial statement, which shows that during the period, January to December, the fund received the following monies :—

	Rs. cts.
Donations	7,976—88
Subscriptions	23,034—69
Interest	11,207—80
Total Rs. ..	42,219—37

The expenditure had been as follows :—

	Rs. cts.
Annual vote to P. A.	2,000—00
Assistance granted	42,181—97
Bank Commission	328—88
Total Rs...	44,510—85

It will be noted, says the statement, that a sum of Rs. 7,976—88 was received as donations, and, as such, should normally be invested and treated as capital. But in the year 1919 the calls on the fund were so heavy that these donations had to be treated as income.

It was resolved :—" That an appeal be made in the *Planting Gazette* " and through all District Planters' Associations for additional funds to " the Planters' Benevolent Fund."

The meeting was further informed that the Investments Account, which showed a sum of Rs. 282.382 —99 was certainly not at the present day correct, as many of these investments had depreciated in value. It was resolved :—" That all investments should be written down to their " present day value."

From this it is clear that the Fund is in urgent need of support. The rise of prices, and the poverty consequent upon the war, have caused the Fund to be very heavily called upon during the last year, and, it is most earnestly hoped that further subscriptions and donations will be forthcoming in 1920, so that, as for many years past, the Planters' Benevolent Fund may justly claim that it has never refused to assist a deserving case.

It is the custom in planting circles over here, where we now have so many old Ceylon men amongst us, to compare methods and results with those of our neighbours across the water. At first glance the figures we have quoted would show that in Ceylon the Benevolent Fund is better supported than in S. India, but we have yet to be convinced that this is so. It is a mistake to make statements without verifying references, but we believe we are not far wrong in putting the planting population in Ceylon at about 2,500, compared with 400 over here. If this figure is outrageously wrong our contemporary will, no doubt, pull us up, if it is right, then, with our smaller population we have done equally well *per capita* this year, and our neighbours have only collected rather more than six times our subscription from a population six times as large.

Comparing further, however, we find that the response to the appeal in Ceylon is being answered in a way which has not, so far, been our good fortune in India. Our receipts in the past may have included a few sums received from Estates and Companies, but in recent years have been entirely made up of personal subscriptions at Rs. 10 each per annum from planters themselves and, more recently, of patrons who have personally

come forward with the necessary Rs. 200 to attain that position. In Ceylon we read almost daily in the *Times of Ceylon* of donations of Rs. 500, 750, even Rs. 1,000 being voted by boards of directors at Company Meetings in Colombo. No doubt this example of the rupee companies will be followed at home by the sterling companies with Ceylon interests, and our appeal is therefore to those companies in India and in London, whose interests lie even in the smallest degree in S. India, to remember the men who are working for them and their shareholders and who run the risk of finding, at long last, the heat and burden of the day too much for them. The fund has helped many in the past, it has claims now pending before it and, saddest part of all, it is living on its capital. We appeal to those planters who are going home on leave to put the case before their directors, we address ourselves to the Rupee Companies whose annual meetings are shortly to be held, we again exhort every planter in S. India, and every Honorary Secretary of District Associations, not to allow the Fund to languish, and above all, we would deprecate delay. *Bis dat qui cito dat.*

SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Variability in yield of Individual Coffee Bushes.

In last week's issue of the *Chronicle* were published some observations on the variability of the individual yield of rubber trees. I have long wished to conduct some similar investigations with coffee, and have often been struck, even on the best estates in a good year, with the number of trees which were not bearing much crop. On poor estates, especially where the coffee is old, I have long been of the opinion that a large number of the bushes never bear much crop and would be better out or replaced.

It has always seemed to me that the coffee planter might well learn a lesson from the Rubber man who thins out. I have written a good deal from time to time about the rejuvenation of old coffee by thinning out and collar pruning, and the replacement of old trees by good hybrid stock. (*Vide Planters' Chronicle*, Volume XII, page 34, and Volume XIII, page 717.)

In dealing with this problem I am often asked, when should such rejuvenation begin, is it better to cut the whole of a bad patch down or only to collar prune bad bushes; is it better to collar prune or to replant? Before correct answers can be given to such questions a good deal more work must be done on the subject, and it is proposed to study it, among other things, on the Coffee Experiment Station just established.

A start has been made, and this is to be looked upon as a preliminary note on the subject. It is hoped that it may be welcomed by coffee planters, as evidence that a beginning has at last been made with work on our long-looked-forward-to Experiment Station. The work will have to be repeated with the same trees for several years, in order to be sure of our results and to discover whether a bad bush is always a bad bush, and, having ascertained this, it is proposed to try various methods of rejuvenation.

With this preface, we will describe what has been done, and give the results obtained so far, but, as stated above, this is only a preliminary note, or progress report.

A small block of 110 trees in a patch of old coffee was chosen and the crop picked off each tree separately, the berries counted and weighed and recorded for each individual tree. Three pickings were done, the first on

22nd December, 1919, the second on 13th January, 1920, and finally the bushes were stripped on 27th January. The individual yields of each tree were than totalled.

These yields have been collected into groups, as shown in the following table:—

TABLE I.

Group.	Number of trees.	Per-centage.	Number of berries.	Per-centage.	Weight of green crop.	
					lbs.	oz.
0 - 100 fruits ...	36	32·73	1,780	5·98	6	15·06
101 - 200 do ...	23	20·90	3,254	10·93	12	13·87
201 - 300 do ...	18	16·36	4,483	15·23	17	8·21
301 - 400 do ...	9	8·18	3,058	10·27	11	15·42
401 - 500 do ...	7	6·36	3,021	10·15	11	13·07
501 - 600 do ...	8	7·27	4,382	14·72	17	0·18
701 - 800 do ..	3	2·72	2,254	7·59	8	12·85
901 - 1000 do ..	2	1·81	1,913	6·43	7	7·60
1201 - 1300 do ...	2	1·81	2,507	8·42	10	4·92
1301 - 1400 do ...	1	0·90	1,351	4·55	5	4·37
1701 - 1800 do ...	1	0·90	1,752	5·89	6	13·37
Total...	110	...	29,755	...	117	5·92

The total crop from 110 trees was 29,755 berries, weighing 117 lbs. 5·92 oz., an average of 270 berries per tree. Two bushes had no berries at all, and several gave only a few. The highest yield was one of 1,752 berries, so that there was an enormous variation.

If, now, we draw a line below the group in the table containing 201 to 300 berries, that is about the average, we can divide the trees into two main groups, those bearing below the average and those bearing above it. When we do this we find that 77 trees fall into the first group and 33 in the second. In other words 77 trees out of 110 (70 per cent.) bear only 31 per cent. of the total crop while the bulk of it, 69 per cent. is born on 33 trees (30 per cent.)

Now it is usually calculated that 140 berries per tree are equivalent to 1 cwt. of coffee per acre. On this basis we see that, in this block, 36 trees, or 32 per cent. are bearing under this rate.

We are, therefore, faced with the same question as was asked about the rubber, can we not distribute better the soil, the moisture and the plant food so as to take it from these poor trees and give it to the good ones? That is a question which remains to be answered. It would seem likely that some 70 per cent. of these trees should be replaced in some way by better bushes.

This is, of course, a poor yielding bit of coffee altogether, but I think much the same results would be obtained on a great many estates if a similar investigation was made.

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

DISTRICT PLANTERS' ASSOCIATION.

Wynaad Planters' Association.

Proceedings of a General Meeting, held at the Meppadi Club, on 18th February, 1920.

PRESENT.—Messrs. Abbott, Malcolm, Darkin, Eyre, Davies, Mc'Bain, Charsley, and Gwynne, Honorary Secretary.

Visitors.—Mr. J. W. G. Bisset, Mr. E. F. Thomas, I. C. S., Collector of Malabar. In the Chair Mr. C. E. Abbott.

Proceedings of last meeting. These were confirmed.

LABOUR LAW AMENDMENTS.—Mr. Gwynne read his Report as Delegate to the General Committee, for which he was thanked, and the report recorded.

GRAIN.—Mr. Thomas addressed the meeting on the matter of grain supplies, and gave the assurance that, whenever Burma rice arrives at Calicut, he would do all he could to allot a portion of this to the Wynaad Division. Regarding the supply of ragi and gram from Mysore, Mr. Thomas said that permission had been granted to the Wynaad to import from the Gundalpet District.

A vote of thanks was accorded to Mr. Thomas.

A vote of thanks to the Chair terminated the meeting.

(Signed) C. E. ABBOTT,
Chairman.

(Signed) J. A. GWYNNE,
Honorary Secretary.

ESTATES AND RICE CONTROL.

Planters will not have failed to notice the announcement made recently that the control of movements of rice within the Madras Presidency had been removed. This, of course, does not refer to rice from Burma and Bengal, which remains under control, and the Director of Civil Supplies has framed rules for the guidance of merchants and others authorised to deal in this controlled rice. These rules have not yet been circulated, but will shortly be published and notified to District Collectors, possibly with some modifications, though this is not probable, as they appear to be both satisfactory and practical. In the meanwhile we may be permitted to study them, and their possible effect from the planters' point of view.

In the first place, then, as is obviously necessary in all questions of control of foodstuffs in this country, the rules must cover three distinct points :—(1) The price at which controlled food shall be sold, thus defining the profits accruing to the licensed importer and the merchant, (2) the control of the said importers and merchants, and (3) the manner in which indents may be made.

Taking the rules in this way, we find it suggested that importers are allowed a profit of 4 annas per bag of 2 maunds, and a further profit of eight annas per bag of 2 maunds if they sell *in retail* the rice they import. The merchants, of whom a list in every district will be given to the importers, will only be persons approved by the authorities, though the importers may supply rice to such other institutions and persons as may be specially recommended by District Collectors. These merchants and others, who must purchase from the licensed importer, will be allowed to retail imported rice at a profit of eight annas per bag. Thus it will be seen that all imported rice must pass through the hands of the licensed importers, and, whether they sell to merchants or in retail, the profits are fixed at four annas plus eight annas, making 12 annas per bag of 2 maunds before it reaches the consumer.

The second point we have mentioned is the control of these "licensed importers" and "approved merchants." This is provided for in the rules by the District Collector fixing the average selling price, and the "approved merchant" shall put up a notice board in front of his shop in a conspicuous place, having clearly painted on it in white letters on a black ground the rates fixed for sale by the Collector. Failure to conform to these rates, or to display the notice board in question, will immediately involve the elimination of the name of the retailer from the list of "approved merchants." The control of the "licensed importer" is confined to his dealings with the Director of Civil Supplies in the matter of presenting the indents, and thus covers point No. 3. "Approved merchants" will send in their indents to the "licensed importer" for the succeeding month before the 15th of the month. The "licensed importer" will consolidate these indents, and send in his demand to the Director of Civil Supplies before the 20th of the month. On receipt of intimation from the Director that the demand can be complied with, the importer will arrange to purchase and import the amount of rice so sanctioned.

There remains only the names of the "licensed importers," who are three Indian firms in addition to Messrs. Best & Co. and Messrs. Walker & Co.

So much for controlled rice through the approved merchants. It will be seen that the rules are extremely plain and simple, and, like most simple things, are for that very reason powerful. They are most practical, and we see no reason why they should not work smoothly and well, to the entire satisfaction of merchant and consumer alike.

Now, with regard to the planting community, it will be seen that the Collector may recommend "such other institutions," who may be included in the list of approved merchants, but a subsequent rule has been framed relating to "large industrial concerns" which, we feel sure, will be welcomed by District Associations as solving the problem in planting districts. The rule says that large industrial concerns requiring assistance by way of supply

of Burma or Bengal rice, *provided they undertake to sell only to their work people at cost price without taking the retailer's profit*, should apply to the Director of Civil Supplies for their requirements of rice before the 15th of the month preceding that to which the indent relates, and these indents will be consolidated by the Director of Civil Supplies and sent to any one of the importers.

We may expect these rules to be framed finally and published at a very early date, before further shipments of rice arrive.

TEA.

The 1918 Contract and the Extra Farthing.

The Tea Commissioner for India addresses the following letter to all Tea Agency Houses, Firms and Estates, which shipped tea to the Food Controller under the 1918 contract.

Dated the 18/20th February, 1920.

Gentlemen/Sir,—I have the honour to inform you that I have received the following cablegram from the Food Controller :—

"Number 184 Ministry will pay extra farthing per pound to locally "controlled companies and estates in respect of increased cost of "production 1918 contract stop. Claims to be submitted to you for "verification and should give name of steamer marks and number of "pounds against each mark as shown in separate invoices already "rendered for payment stop. The separate items of poundage "should then be added and a calculation worked out at a farthing "per pound on total weight thus shown bringing out full amount of "claim against Ministry in one item stop. Claim should then be for-"warded by you after verification to Ministry who will make all "payments in London stop. Growers on their claims must state "names of London Agents or Bankers Agents to whom payments "are to be made together with authority to the Ministry to make "such payments stop. No payments are to be made in India for this "extra farthing stop. In submitting accounts to Ministry please "state where a Grower has not put up final adjusted accounts "because until such accounts are rendered and settled no extra "farthing will be paid stop. Separate claims should be rendered "to this Ministry for War Office teas."

I shall be much obliged if you will be so good as to favour me, in duplicate, as early as possible, with the details of any claims which you wish to make in respect of the locally controlled tea concerns represented by you. Your special attention is invited to the form in which such claims should be submitted. A sample form is attached for your guidance. Please note that the extra allowance of one farthing cannot be claimed in respect of 1918 teas shipped under the 1917 contract.

I have the honour to be,
Gentlemen/Sir,
Your most obedient servant,

(Signed) W. M. KENNEDY,
Tea Commissioner for India.

FORM Attached.

(In duplicate.)

Invoice of cost showing the amount due from the Food Controller / War Office on account of the increased cost of production allowed at one farthing per pound in respect of all teas shipped by locally controlled estates under the 1918 contract.

Name of Tea Agency House, Firm or Estate in India.....

Name and address of Agents or Banks in the United Kingdom..... .....

Steamer.	Date of Clearance.	No. & Date of Invoice of cost.	Mark.	Garden.	Pounds. (lbs.)	Amount of Claim. £. s. d.	Date and authority of previous final adjustment.

Please pay to (fill in name and address)
my / our Agent / Banker in London, the sum of £. s. d.

Signature.....

Name of Firm.

Signature..... .....

Name of Firm.

A Lecture on some Aspects of Present Prospects of Opening Tea Clearings.

A feature of the proceedings of the Sri Mulam Popular Assembly at Trivandrum in recent years has been the lectures given by various visitors on all sorts of topics ranging through the whole gamut of industry, agriculture, co-operation, etc., mainly, in fact one might say wholly, of a practical nature. The average planter does not quite realise, we are sure, the eagerness with which the Travancorean is ready to learn, and these lectures on subjects of practical utility, new industries and the like, are always well attended and sometimes provocative of interesting discussions. We remember last year Mr. J. R. Vincent gave a lecture with regard to rubber cultivation in Travancore which was much appreciated, judging by the prolonged interpellations which greeted the lecturer at the finish. This year it is the turn of tea, a product in which native planters are taking an increasing interest. A young Peermade planter is responsible for the lecture, which we print hereunder, and Mr. Goldsmith is to be congratulated on his attempt to bring into a few lines the whole process of the industry. We do not publish his lecture because it teaches anything new, but because we think it an admirable thing that European planters, while occupied with the business of the Assembly, should find time to give an account of what has hitherto been looked upon as their monopoly to the young idea of the country in which they live and have their beirg. Readers of this journal on occasions may have thought that we have a decided penchant for Travancore, *L'Inde sans les Anglais*, as Pierre Loti would have it, and in this they are right. If we have any regrets at all, it is for that delightful country in general and its charming people in particular, especially those who have so often, at Trivandrum, by their hospitality and cordial manners, made the Sri Mulam week a never-to-be forgotten landmark in our life.

Mr. Goldsmith said :—

I have great pleasure in speaking to you on what I regard as one of the most stable and most prosperous agricultural ventures in the Travancore State, namely the cultivation of tea. A vast amount of capital, formerly mostly European and lately a great deal of Indian, has been expended with successful, in many cases highly so, results in dividends. Tea estates may now be fairly said to have taken the place formerly held by coffee. Large tracts of land, which would otherwise be still impenetrable jungle, have been opened up by enterprising capitalists who foresaw a golden future for their products, and these large areas now yield to the Government substantial revenues in the shape of land-tax and produce-tax. In considering the future, we have to look to the active support of the Government, especially in the Tea Industry, which is dependent for its success greatly on its road communications and facilities for the expeditious transport of its products to the world markets. In considering the choice of suitable land for tea planting, so that we may obtain the best possible results from our capital outlay, there are many factors which must govern our actions in these, the initial stages, of development. First of all let us take the question of elevation, and examine the facts relative to elevation and tea production. Many Indians are imbued with the idea that tea cannot be grown as a commercial success at a low elevation. I wish to point out that this is a mistaken idea, and that, in the Kellani Valley and Kaltura Valley in Ceylon, to mention but two districts of many, low country-tea has, for

many years past, given large yields, up to an average of 1000 lbs. an acre and above, resulting in good profits being obtained.

In Travancore, tea grown at an elevation of 460 feet yields to very much the same extent. An Estate, of which I was told the other day, at an age of two and a half years from planting, yielded some 600 lbs. per acre which promises excellent results for this District in the future. Elevation gives quality, but increased yields in the low country should fully compensate for any slight loss in market price. With the present and promising future of the world's tea markets, low country-tea should command as good price as to-day, if not a greatly enhanced one.

SELECTION OF LAND.—In selecting our land, we must first of all carefully observe the soil which is general over the area, and particularly what sort of vegetable growth has it so far supported. Long grass, ten to fourteen feet high, or land bearing heavy, thick jungle, we may consider the most favourable. Of the two, long grass is the least expensive to clear and is not so liable to fungoid growth as heavy jungle land; at the same time we should look to the necessity of having timber for building and firewood purposes readily available.

SOIL.—Undoubtedly the black fertile "soils of transport" are the most suitable for the production of large yields from the tea plants, "soils of transport" being those surface soils removed by wash off heavy rainfalls and transported "in suspension" in floods, to be deposited in the rich alluvial lands on either side of the large rivers which traverse this State.

These soils are rich in "humus" and readily absorb moisture, from their fine texture. Their mechanical properties are such that they, when, in the course of time, artificial manures are applied, readily separate the constituent elements which, therefore, quickly become available for plant food.

It is also advisable to choose land which is not too steep, thereby eliminating loss of soil by wash. The extent of flat lands is necessarily limited, but a gently moderating slope is greatly to be desired.

Valleys sheltered from strong winds are also preferable, the effect of strong winds being to strip the tea bush of many of its leaves, thus, in exposed places, a large loss of crop ensues.

RAINFALL.—The ideal being an evenly distributed annual rainfall, some districts of the Travancore State offer all that can be desired in this direction. A warm moist valley has the expected forcing effect on the bush, resulting in large yields. Both excess of rain and drought cause the green leaf yield to fall proportionately.

ROADS.—It is essential for a tea estate to have a good road, as the means of outlet for its produce. Not only its actual produce, the yield of crop, which, in weight will be large, an estate of 500 acres yielding say, 450,000 lbs. tea in an average year, but artificial manure, rice, factory materials and the hundred and one things which are required for the working of an estate have all to be transported.

I have now dealt with the various factors, which one must consider carefully in a general sense in the preliminary outline. To proceed, having chosen suitable land, governed in our selection by the foregoing considera-

tions, the jat of the bush which may be most successfully grown in the selected district must be considered. We can be guided in this by examining it near a district already planted, and by planting that jat which shows the best results on the already established estates. It is desirable that the estate is planted all over with the same good jat. That jat should be selected to suit the soil and climatic conditions, so that from the initial stage the plants shall have the best possible chance of success. Care must be taken to select a good season and great care given to the plant, otherwise a large percentage of vacancies will result and will be apparent later in crop yields.

SHADE AND FUEL TREES.—Shade trees are essential in places where a long drought may be expected, much the most desirable type of shade tree is that which may be used to give a green dressing to the soil at certain periods. Fuel trees will be necessary, generally speaking, on all estates which are found sooner or later to exhaust their firewood reserves, on grass land clearings it may be necessary to plant this immediately upon clearings. Wind belts will always be necessary, and, in addition to their practical value, add considerably to the appearance of an estate.

FACTORY.—Without entering into a detailed technical explanation of the factory machinery needed for tea manufacture, I may state that power in the shape of an engine is necessary for acreages of two hundred and over, or crops of one lakh and over. Under this, we may successfully deal with the crop by hand machinery. It would occupy too much time to go into the matter of suitable engines, but here, again, we may suit our engine to the natural sources of fuel available.

Water power is the most to be desired, and, if water is present in available form, factories can be sited suitably and in close proximity. I have said, I think, all that is necessary on the subject on which I originally based my lecture. Now, before dealing with the approximate cost of opening, I must mention diseases common to the tea bush and the resultant loss of crop. These are matters which claim our immediate attention. Close co-operation with Government, with a view to obtain scientific help in this matter, is greatly to be desired. When we understand that in Java, by Government financial support for the furtherance of scientific results, the sulphate of quinine contents of cinchona bark have been increased by 300 per cent., we see that this point is vitally important. Diseases in tea are few, but they are sufficient to warrant a strenuous endeavour in this direction.

COST OF OPENING.—The all-in capital cost of opening land and planting tea and maintaining until crops are obtained may be stated, on average land, to be five to six hundred rupees, this, including purchase of land, erection of buildings, factory and power machinery. The great advantage of tea over rubber and coffee lies in the fact that, with the eminently suitable Travancore soils, crop can be harvested at the 30th month from planting: thus the clearings maintain themselves after this date until a substantial profit is obtained.

FUTURE.—The future of tea is bright, owing to the ever increasing demand from all countries of the world, but a vast market might be obtained in India. The local producer is now suffering under a disability, in that tea exported to Ceylon is subject to duty, while there is no reciprocal tax on importers of tea into this State.

NOTES AND NEWS.

The Labour Department.

It is notified for general information that the headquarters of the U. P. A. S. I., Labour Department, Srivilliputhur, have been transferred to Madura as from 1st March, 1920. All correspondence should, in future, be sent to

The Superintendent,
U. P. A. S. I., Labour Department,
Mills Bungalow,
Mariamman Teppakulam,
Madura.

Telegrams:—"Upasi," Madura.

The Late Mr. C. S. Prince.

The late Mr. Prince joined the Labour Department at the very beginning of its existence, when the Hon'ble Mr. J. A. Richardson's labour organization was taken over at Nagercoil. He had thus put in over 5½ years' meritorious service, and he will be greatly missed alike by his superiors and the estates he worked for. His death leaves the Department "as you were" in the matter of staff, Mr. Dunning having been posted to Palamcottah.

Estates and Rice Control.

We wish to call attention to the article in another part of this issue giving an epitome of the proposed rules for the control of Burma and Bengal rice. We feel sure the rules will meet with approval from all planters. The control of foodstuffs is a most difficult question to handle, as has been proved in America and Great Britain, where the Food Controller was the one man nobody envied, and whose place, indeed, was most difficult to fill.

The Extra Farthing.

This is another announcement we wish especially to be carefully read by all those interested in the 1918 Tea Contract with the War Office, or the Food Controller. In our article last week, we expressed the fear that the announcement applied only to Sterling, and not to Rupee Companies. It will be seen from Lt.-Col. Kennedy's letter that the concession appears to be applicable to everybody, with certain reservations.

Our usual report is crowded out this week, but we hope to resume in our next issue, with some interesting details of the produce markets, which may be expected, with the mail, a day after these notes are being written. In the meanwhile a glance at our front page will show how strong the coffee market is. It will be noticed that the cable is dated, London 24th February. Hitherto, these cables have been despatched every Friday, thus, in February they were dated, 6th, 13th and 20th. We are left wondering why the cable has this time been despatched on Tuesday, four days after the previous message.

Rubber Statistics.

The figures for January, issued by the Rubber Trade Association, which we publish in this issue, seem to have been delayed ; it is nearly two months since we received the December figures. Stocks, it will be seen, were nearly 25,000 tons for London and Liverpool on 31st December against 16,012 tons in 1918. A healthy sign is, that, in December, imports were only 6,921 tons against 9,243 tons delivered.

The Potash Salts.

Messrs. Parry & Co. reply in this issue to some of Mr. Anstead's remarks relating to the uses of Muriate and Sulphate of Potash, made last week. We will not say more here for, when experts differ, it is at least unwise for the layman to earn the title which O. Henry gives to one of his characters and which has always amused us so much—Mr. Buttinsky. Incidentally it will be noticed, on reference to our advertisement pages, that the well-known fertiliser " Nitrolim " is again available.

The Planters' Benevolent Fund.

The financial year of the U. P. A. S. I. ends on 31st March this year, and for this reason we hope Honorary Secretaries will not fail to rope in the outstandings without further delay. If there are any potential patrons knocking about, now is the time to take the plunge in a good cause. We must confess to bitter disappointment that our boastings, in regard to the weekly average during the recent whip round, have not been justified by continued support, and we are all the more chagrined as we happen to know the fund is urgently in need of money.

RUBBER TRADE ASSOCIATION OF LONDON.

Monthly Statistics.

January, 1920.

Movements of all kinds of Rubber, to and from the United Kingdom as per BOARD OF TRADE RETURNS.

IMPORTS.

From	December.			12 Months ended Dec.		
	1919.	1918.	1917.	1919.	1918.	1917.
Straits Settlements and F. M. S. ...	5,256	3,558	724	58,132	20,133	40,052
Ceylon and British India ...	2,626	922	1,259	19,999	14,096	13,848
Dutch East Indies...	1,120	49	170	11,453	3,485	6,308
Brazil and Peru ...	580	621	762	8,618	4,643	11,183
Other Countries ...	473	688	80	3,689	4,486	6,994
Total Tons...	10,055	5,838	2,995	101,891	46,843	78,385

EXPORTS.

To	December.			12 Months ended Dec.		
	1919.	1918.	1917.	1919.	1918.	1917.
Russia ...	5	...	13	76	...	4,003
Belgium ...	325	...	...	3,757	...	...
France ...	880	482	973	10,694	9,950	12,963
Italy ...	229	308	164	4,460	3,299	3,036
United States of America ...	6,309	...	280	28,510	2,622	30,343
Other Countries ...	831	75	97	11,875	929	2,093
Total Tons...	8,579	865	1,527	59,372	16,800	52,438

LANDINGS, DELIVERIES and STOCKS in London and Liverpool as returned by the Warehouses and Wharves during the month of December.

	Landed. for Dec.	Delivered for Dec.	Stocks 31st December.		
			1919.	1918.	1917.
LONDON—					
Plantation ...	6,170	8,275	21,615	12,451	11,417
Other Grades ...	23	15	594	424	396
LIVERPOOL—					
Plantation ...	128†	467†	1,621†	2,300†	4,100*
Para and Peruvian ...	600	480	770	344	251
Other Grades ...	...	6	380	493	1,015
Totals, London and Liverpool...	6,921	9,243	24,980	16,012	17,179

† Official returns from the five recognised Public Warehouses.

* Estimated.

Movements of all kinds of Rubber, excluding Gutta, Balata and Guayule, to and from the U. S. A., AS PER RETURNS OF THE UNITED STATES DEPARTMENT OF COMMERCE.

	October.			10 Months ended Oct.		
	1919.	1918.	1917.	1919.	1918.	1917.
IMPORTS ...	19,521	6,795	14,851	189,595	132,259	155,006
EXPORTS ...	285	43	184	1,750	2,668	3,297

RECEIPTS AT PARA.

	December.			July/Dec. (6 Months.)		
	1919.	1918.	1917.	1919.	1918.	1917.
Rubber ...	2,640	2,660	2,723	13,660	10,688	12,880
Caucho ...	220	550	376	2,870	2,352	3,550
Total...	2,860	3,210	3,099	16,530	13,040	16,430

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

The Presidency Manure Works, Ltd.,

Madras, 3rd March, 1920.

Potash Salts.

Dear Sir,—Mr. Anstead's remarks regarding Muriate of Potash are apt to create a false impression regarding the value of this fertiliser on account of its chlorine content, although he rightly admits at the end of his article that, "for plantation purposes it does not matter in the least which potash salt, Muriate or Sulphate, is used." It appears to us that this statement correctly represents the situation, and Mr. Anstead's criticisms of our soil chemistry are entirely of academic interest, and do not in any way have any bearing on the relative merits of Muriate and Sulphate of Potash. Dr. Russell, of Rothamstead, during the war advocated the use of salt in order to liberate the potash contents from the soil. It is thus evident that the disadvantages of chlorine are more than counter-balanced by the value of the potash liberated, and hence the presence of salt in small proportion in Muriate of Potash cannot be anything else but an advantage.

It is interesting to note that Germany which, before the War, was the largest potash-consuming country in the world, consumed the bulk of its supplies in the form of Kainit and other chlorine, containing potash compounds. In 1913 the potash distributing Bureau of Germany authorised the distribution of such salts for Home Consumption, that is, German Consumption, of over 3 million tons, and authorised for export one million and three hundred tons. For Potassium Sulphate they authorised a Home Consumption of 17,000 tons and an export consumption of 570,000 tons. The average consumption of potash per acre in Germany is given by Dr. Russell as ·48 cwt., and the consumption of Great Britain during the same time is ·08 cwt. per acre. It is evident from the above figures that Germany reserved its potash supplies containing chlorine for itself, and permitted the export of potash containing sulphate. We would further emphasise the fact, now that potash salts are available, the use of these should be accompanied by the use of lime. No question of acidity can then arise, whether Muriate of Sulphate is used, and the results will be found to be well worth the extra expense.

As regards the last para of Mr. Anstead's letter, we fear that the high cost of wages and transport in Europe, and high freights, will prevent the price of potash reaching its pre-war level for some time, if it ever does, which we consider unlikely.

Yours faithfully,

(Signed) PARRY & Co.,
Managing Agents.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 5TH MARCH, 1920.

176s/- *per cwt. Market Firm.*

THE BREACH OF CONTRACT BILL.

Planters will have read with interest the reports in this week's papers of the debate on the Select Committee's Report on the Workmen's Breach of Contract Act Amendment Bill, although it is rather difficult to follow the references to various sections without a draft of the Bill before the reader.

This draft will be found in the *Chronicle* of 25th October last, (Vol. XIV, No. 43), and will enable those interested to follow more closely the arguments put forward by the various speakers.

Dealing first with the Select Committee's Report, we are told that one of the suggestions made was the deletion of the words *or to get performed by any other artisans, workmen, or labourers*, from Section I of the Act. The Committee are not satisfied that those special interests which are particularly concerned in the working of the Act have had a sufficient opportunity of expressing an opinion on this point, (which was not directly referred to them), to justify such an amendment. On page 719 of the *Chronicle* referred to above, will be found the draft of Clause 3, introducing the new Section 2, and suggestions were made, but not accepted, in reference to this section, (1) that the powers of the Magistrate should be limited, in the first instance, to the imposition of some pecuniary liability, and that imprisonment should only follow upon default of payment, and (2) that, for the provision limiting imprisonment for failure to pay an instalment thereof, should be substituted a single offence carrying the maximum penalty. The first of these two proposals amounts to nothing more or less than rendering the Act futile and inefficient so far as the employer is concerned, and the second proposal appeared to the Committee to be unduly severe on the workman. The Committee, however, accepted the argument that an employer, who re-engages a dishonest workman, does so with his eyes open, and, having once taken proceedings, should not again be entitled to have resort to the special procedure allowed by the Act, and the concerned proviso has accordingly been amended.

The Hon'ble Mr. Crum records a minute of dissent disagreeing to proviso (*b*) to Clause 3 (1) of the bill, on the ground that it would appear to operate hardly against the employee. This proviso in the draft bill is not clear. There is no proviso marked (*b*), they are numbered 1, 2, 3, & 4, and we presume Mr. Crum is referring to one of these, as they relate to im prisonment for failure to comply with the Magistrate's order. We are glad to see that this gentleman reserves the right to move a further amendment on the point under Clause 2 (2), limiting the advance to Rs. 300, which Mr. Crum considers inadequate as far as Maistries and Kanganies in the Madras Presidency are concerned, and we do not fail to note that the remarks of the Government of Madras were not placed before the Select Committee during their deliberations.

So much for the Select Committee. We now have to consider the debate, and here, as may have been expected, the important point which came up for discussion was contained in the words "get performed," which Mr. Sarma moved should be deleted wherever they occurred in the new section 2. The main idea at the back of Mr. Sarma's mind, and we have the same appeal in Pundit Madan Mohan Malaviya's speech when the bill was first introduced, is the total repeal of these Acts which, rightly or wrongly, these gentlemen believe amount to applying a criminal remedy for a civil offence. Their point is not that a workman who dishonestly refuses to perform his contract should not be punished, but that a workman who engages to induce others to work along with him, failing to do so, should not be exposed to penalties under the Act. This point, it will be remembered, is one which was made at one of the U. P. A. S. I. Meetings at Coimbatore, when a resolution was passed pressing the Madras Government to bring Maistries under the

Act. Another point made by Mr. Sarma was that Sub-Contractors were not brought within the scope of the Act. Sir William Vincent admitted that Government were in sympathy with Mr. Sarma's theoretical ideal, but contended that practical reasons made it impossible for the course suggested to be taken. In the end, the amendment was withdrawn, and Mr. Sarma made a final effort to introduce an amendment by which a labourer might be given the option to pay back his advance with an addition of 50% penalty, should he wish to break his engagement. The amendment was put and negatived. Unfortunately, the absence of Mr. Crum, in whose name an amendment stood relating to proviso (*b*) in Clause 3, Section 2 (1), mentioned above, precluded further discussion, and, pending this, Sir George Lowndes postponed further consideration of the bill till next meeting.

We are thus held, so to speak, in a state of uncertainty regarding this bill, though we do not think it will be materially altered at the next sitting. The Government of India have apparently made up their minds in the matter, and, so long as there is nothing more fearsome to meet than the type of amendments so far suggested by our Indian friends, then we may rest assured that the bill as amended by the Select Committee will pass into law. Mr. Crum's amendment, if it is what we think, may be accepted as making conditions a little easier for the employee, a bait which the present Government is only too eager to swallow.

SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Xyleborus Beetles.

This group of beetles are nearly all borers in wood, and are apt to do damage to forest trees. They are small insects, mostly elongated and cylindrical, dull brown or black in colour. In some species the food appears to consist not of wood, but of the fruiting bodies of certain fungi which they themselves cultivate with great care.

The best known species is *Xyleborus fornicatus*, the Shot Hole Borer of Tea, which does so much damage on tea estates in Ceylon and Assam, but which luckily does not appear to exist in South India.

Recently, two other species have been identified by the Government Entomologist from specimens received from South Indian estates.

Xyleborus compactus has been found as a small beetle attacking the stems of Robusta Coffee in the Nelliampathies. This is a new pest of coffee, and it only appears to attack Robusta. It is not certain, however, that it is really a primary pest. It is possibly a secondary pest boring into wood killed by other causes, such as dying back, or fungi. The remedy appears to be to cut out all attacked shoots well back to live wood and burn them, coating with tar any large wounds caused in the process.

Xyleborus biporus is the small borer which attacks Hevea. This is a secondary pest, as it only attacks wood or bark already killed by other causes, such as Brown Bast, Pink Disease, tapping wounds, etc. The remedy is to treat such wounds as quickly as possible after they are made. Logs of Hevea, after thinning out operations, are rapidly attacked by these borers.

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

DISTRICT PLANTERS' ASSOCIATION.

Nilgiri-Wynaad Planters' Association.

Proceedings of a General Meeting, held at Gudalur at 11 a.m., on 27th February, 1920.

PRESENT.—Messrs. J. S. Nicolls (Chairman), J. W. G. Bisset, G. W. Fulcher, R. Fowke, T. A. Kinmond, G. A. Rutter, and F. W. F. Fletcher (Honorary Secretary). *Visitor*—Mr. H. Clarke.

The Proceedings of the last Meeting were confirmed.

LABOUR LAWS.—The Chairman, who was a member of the deputation which met H. E. the Governor on 9th February, gave the Meeting details of the interview. The hope was expressed by some members that, in view of the greatly extended powers to be conferred on Magistrates by the amended Act XIII, it would be possible to arrange that breach of contract cases should be tried by a 1st Class Magistrate. A vote of thanks was passed to Mr. Nicolls for having attended the interview with His Excellency.

GRAIN POSITION.—The Chairman, as President of the Emergency Committee, explained the present position. The Honorary Secretary read Collector's circular forwarded with his letter No. 348/1920, dated 7th February, in which the new rules for the control of food grains are laid down. The Honorary Secretary added that shameless profiteering was going on in the case of locally grown ragi and paddy, and he had endeavoured to have these locally raised food grains brought under control in the same way as imported food grains, but unfortunately without success. A vote of thanks was passed to the Collector and the other officials concerned for all their work on behalf of the Gudalur Taluq. The Honorary Secretary was instructed to ascertain, from the Director of Civil Supplies, whether Burma rice intended for the Nilgiri-Wynaad cannot be shipped to Calicut, as this route would mean a large saving in transport charges.

COMPENSATION FOR TENANTS' IMPROVEMENTS ACT.—The Chairman regretted he was not in a position to give members any definite information, but he understood the matter was before Government, and felt sure the justice of our claim for protection would receive due consideration. He added that the Secretary, U. P. A. S. I. had informed him, in course of conversation, that the question was not officially before the U. P. A. S. I. The Honorary Secretary pointed out that a copy of the resolution passed at the N-W. P. A. Meeting, held on 31st July, 1918, had been sent to the Secretary, U. P. A. S. I. with his letter, dated 7th August, 1918. After some discussion, the Honorary Secretary was instructed to send the Secretary a *resume* of the Association's case, to be put before the Executive Committee with the request that immediate action should be taken.

GRANT OF LAND ON COWLE.—The Honorary Secretary read all correspondence on this subject since the December Meeting, and said that he had at last been able to take formal possession of Survey No. 240 of Cherangod on behalf of the Association. Mr Bisset, who has taken great interest in the scheme, spoke hopefully of the prospect of inducing ryots to settle on the concession. Several members thought they could get land brought under cultivation if it lay in the vicinity of their Estates, the difficulty being to induce conservative ryots to emigrate to any distance from their present homes. The Honorary Secretary was instructed to ascertain whether it would be possible to get the balance of the land due to the Association allotted in the neighbourhood of these Estates.

PLANTERS' BENEVOLENT FUND.—The Honorary Secretary read letter from the Secretary, U. P. A. S. I., dated 13th January, 1920, with enclosure, and the Chairman made an earnest appeal for support. A list was passed round, and all members present who do not already belong to the Fund promised an annual subscription. The list will now be circulated amongst those members of the N. W. P. A. who did not attend the Meeting. It was decided that subscriptions should be collected together with the U. P. A. S. I. subscription. The feeling of the Meeting was that only subscribers should benefit from the Fund.

TEA FOR PERSIA.—The Honorary Secretary read the correspondence on this head since the last Meeting, and said that apparently the position now was that 12 annas per lb. would be paid for the three highest grades, f. o. r. Bombay: that payment would be guaranteed by the Imperial Bank of Persia: and that that Bank had made a deposit of three annas per lb. with their Bombay branch against deliveries to Messrs. Cox & Co. Some members thought it would conduce to business if the exact position occupied by Capt. Dunning in these negotiations was clearly defined.

APPOINTMENT OF VETERINARY INSPECTOR.—The following resolution was proposed by Mr. Bisset, seconded by Mr. Fulcher, and passed unanimously:—

> "That, in the opinion of this Association, the present veterinary "staff is insufficient to meet the requirements of the Nilgiri-Wynaad; "and, in view of the shortage of draught cattle, due to the virulent "outbreak of rinderpest last year, which raged unchecked owing to "the lack of scientific advice and treatment, the Association consi- "ders that a special veterinary officer should be appointed to the "Gudalur Taluq."

The Honorary Secretary was instructed to take the necessary steps.

CORRESPONDENCE.—(1) Read correspondence with the Postmaster-General regarding the appointment of peons to local telegraph offices, and the fixing of uniform hours for the despatch of telegrams from those offices. The report from the Superintendent, Nilgiri Division, is awaited.

(2). Letter from Secretary, U. P. A. S. I., No. 1351, dated 16th December, 1919. The list of roads given by the Honorary Secretary was approved.

(3). Letter from Secretary, U. P. A. S. I., No. 2352, dated 19th February, 1920. A revised list of acreages will be forwardedwhen all

members have intimated the extensions, if any, made during the last planting season.

(4). Letter from Secretary, U. P. A. S. I., No. 2365, dated 19th February, 1920. Reminders will be sent to those members who have not yet paid the last quarter's subscription.

(5). Read correspondence with Secretary, U. P. A. S. I., relative to issue of fresh warrants. Reply to Honorary Secretary's letter, dated February, 1920, is awaited.

(6). Read Report on the Labour Department, dated 18th February, 1920. Recorded, with an expression of the Association's regret that so small a measure of success had attended the tentative efforts so far made to exploit fresh recruiting grounds, and, with the hope that it would not be left to private enterprise to find a solution of this problem, so vital to the future of the planting industry.

(7). Letter from Secretary, U. P. A. S. I., No. 2387, dated 20th February, 1920. As nothing can be done towards the adoption of the Inter-District Labour Rules, or the Incorporation of the Association, till the Articles of Association have been revised, further consideration of these matters was deferred pending receipt of the revised Articles promised in the above letter.

With a vote of thanks to the Chairman, the Meeting ended.

(Signed) J. S. NICOLLS,
Chairman.

(,,) F. W. F. FLETCHER,
Honorary Secretary.

COFFEE.

The Composition of the Coffee Berry and its Relation to the Manuring of a Coffee Estate.

C. C. Monoton.

Attention has recently been devoted to the chemical composition of the coffee berry. When an analysis of parchment coffee or coffee berries is examined, it is at once noticed that potash is a dominant factor among the mineral constituents. This being so, it is only logical to suppose that a fertiliser containing a preponderance of potash should help the coffee trees to ripen up and hold its crop. And, at this juncture, the question at once presents itself as to when this potash should be applied. Do the coffee berries need it from the very beginning of their development, that is, as soon as they have set and the blossom has fallen, or do they need it only towards the end of their development ? The same question also applies to the nitrogen and phosphoric acid. It seems that, if an answer could be found to these questions, it would have a profound practical bearing upon coffee manuring.

A year are two ago analyses were made in India of coffee berries, each month from July to December throughout their period of development, from the time they were quite small to the time when they were ripe and

ready to pick and pulp. Uniformity was attempted by taking a careful sample from a large number of berries of similar development, carefully picked in the field.

The result of the analyses are shown in the following tables :—

Analyses of Fresh Coffee Berries from July to January.

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jany.
Moisture ...	87·13	84·45	80·75	71·54	66·06	65·77	66·62
Organic Matter...	11·96	14·67	18·18	26·93	32·05	32·48	31·58
Silica ...	0·04	0·01	0·03	0·02	0·02	0·04	0·05
Phos. Acid ...	0·08	0·07	0·09	0·16	0·15	0·12	0·12
Ash Potash ...	0·37	0·43	0·49	0·77	0·93	0·88	0·96
Lime ...	0·04	0·02	0·02	0·02	0·04	0·02	0·02
Other Mineral matter ...	0·38	0·35	0·44	0·56	0·75	0·69	0·65
	100·00	100·00	100·00	100·00	100·00	100·00	100·00
Containing nitrogen ...	0·30	0·38	0·24	0·50	0·61	0·67	0·66

Analyses of the Ash of Coffee Berries from July to January.

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jany.
Silica ...	4·48	1·48	2·84	1·23	1·11	2·47	3·03
Phos. acid ...	8·48	8·04	8·20	8·40	7·87	6·56	6·83
Potash ...	40·31	48·38	45·78	50·30	49·40	50·10	53·19
Lime ...	4·27	2·04	1·89	1·17	1·89	1·23	1·14
Other Mineral matter ...	42·46	40·06	41·29	38·90	39·73	39·64	35·81
Total...	100·00	100·00	100·00	100·00	100·00	100·00	100·00

The first table shows the actual composition of the fresh berries as regards the constituents named, while the second table shows the composition of the ash, that is, the mineral part in each sample, with which we are chiefly concerned. In July the berries were very small, and it required 72 of them to weigh one ounce. In December the berries were fully developed, but still green, or only commencing to turn yellow. At this stage the beans are fully developed, and, if pulped, yield good coffee. In practice the berries are allowed to ripen and develop sugar (turning red in the process), in order to facilitate the pulping and subsequent fermentation of the saccharine matter adhering to the beans. This fermentation enables the beans to be washed clean, the process having no effect upon the quality of the actual coffee bean. The last column in the tables is the analysis of the ripe berries as picked for pulping.

These analyses show that there is a markedly steady increase of potash content throughout the period of growth, and from this it is concluded that potash in an available form is needed all the time. The phosphoric content appears to be a constant quantity at first, with a maximum about October,

after which it declines. Hence, it seems likely that this constituent is needed in an available form chiefly in the beginning of the season. The nitrogen content increases steadily throughout the period of the growth, and keeps pace with the increase of organic matter.

On these results, a series of manurial experiments have been based, and are being carried out. Attention should be drawn to the moisture content of the berries during their growth and development.

From July to December, when the berries are fully developed in size, there is a rapid and regular decrease in the amount of moisture in the berries. It falls from 87·13% in July to 71·54% in October, and 65·77% in December.

This confirms Mr. H. P. Guppy's results. In his recent book studies in seeds and fruits, he states that immature fruits contain more water than mature fruits, and that, in the living plant, the decrease in the percentage of water is due to the fact that, during the building up processes involved in growth, the solids increase more rapidly than the liquid constituents.

During the ripening process, however, the moisture content increases by nearly one per cent., and this would appear to be a critical stage in the history of the berry.

Much more work is needed upon this point. It is, however, significant that every year some amount of crop falls off, and that, in certain cases on particular types of soil, the trees fail to hold their crop. And, when this occurred, it was noticeable that many of the berries failed to complete the last stage and would not ripen, but had to be picked and pulped while still hard and yellow, instead of soft and red. The moisture factor has undoubtedly some bearing upon phenomena such as these, and it is possible that they can be controlled by methods of cultivation and the application of fertilisers which tend to increase the root area, or conserve the soil moisture. The results so far obtained suggest at any rate interesting side lines of research on the lines indicated above, together with the study of the physical condition of the different types of coffee soils and their moisture content at different times of the year, in relation to the ability of the coffee grown on them to hold and ripen up a big crop.—*Farmers' Journal*, Vol I, No. 25.

COFFEE FOR THE GREEK GOVERNMENT.

We have been asked to publish the following letter, addressed to the Indian Trade Commissioner, from which it certainly would seem that there is little likelihood of repeat orders from Greece for East Indian Coffee.

H. M. Consulate for
Continental Greece,
The Piraeus,
January 8th, 1920.

Sir,—With reference to your letter No. 8624 of the 15th ultimo, inquiring as to the demand for Indian Coffee in Greece, I have the honour to report that the temporary opening obtained for this product during the war, owing to difficulty of access to the South American market, does not seem likely to be permanent. Merchants inform me that Indian coffees,

though of superior quality to Brazilian, have not the same strength in the cup, and do not suit Levant buyers. In fact a recent Royal Decree, prohibiting until further notice imports of coffee into Greece, (excepting goods afloat or in course of shipment) is probably connected with the fact that the Greek Ministry of Supplies still holds large stocks of Indian coffee, of which it acquired about 4,500 tons in 1917-18. Since the armistice Greece has imported about 4,000 tons of Brazilian, and apparently no more Indian coffees.

The following merchants might, however, be approached with a view to importing from India:—

Frederick Ross	Piraeus.
M. A. Couvela	do.
Joannidis and Pissanos	do.
Const. Kyriakis	do.
A. E. Dimitriou	do.
P. Merminghas	do.

I have the honour to be,

Sir,

Your obedient servant,

Acting Consul.

The Indian Trade Commissioner,
60, Winchester House,
Old Broad Street,
London, E. C. 2.

CEYLON.

Planting in 1919.

ANNUAL REPORT OF THE PLANTERS' ASSOCIATION.

The *Times of Ceylon* weekly edition, dated 3rd March, reproduces *in extenso* the Annual Report of the Ceylon Planters' Association, and also an account of the Annual General Meeting, which not only form interesting reading, but are of the utmost importance to South Indian Planters, and should be carefully read by everyone connected with planting in this country.

We must dip into the statistics which form so important a part of the report at a later date, when we have had a little more time to study them, and, for the moment, will confine ourselves to those parts generalising on the

various subjects. First on the bill of fare comes Labour, and this subject in the report is divided into two parts, dealing with recruiting and the movements of labour generally during the year and the prospects for the future. The two sections, however, both deal with the rice shortage, and particularly with the attitude of the Indian Government in the matter of rice supplies from Burma and Bengal to Ceylon. Since the report was written, we have seen in the Madras dailies the text of the representations made by the Ceylon Deputation to the Viceroy on this question, and we have also before us the Viceroy's reply, so that we can better judge the reasonableness of the Committee's remarks than we could have done earlier on. Naturally the shortage of rice has caused much anxiety, not only in Ceylon, but on Estates in India, and the Ceylon Planter, in common with our own readers, have spent large sums of money in making up to the cooly the loss on rice he would otherwise have sustained. The point we wish to emphasise is this, that this loss has fallen just as heavily on South Indian properties as on Estates in Ceylon, and when the Committee says, as it does, "the attitude of the Indian Government appears to be inexplicable, discourteous and extremely unjust to this Colony," we wonder why South Indian Planters have never for one moment thought of addressing the Government in this way, since as we shall see, Ceylon is now complaining of India's profiteering when South Indian Estates are paying just as much, if not more, for their foodstuffs, so that the previous figures at which rice was sold to Ceylon must have been more favourable than those at which the Indian Government's own people were able to purchase.

We shall have to revert to this subject again before we have finished with our purpose, and, before doing so, will again quote from the report. The Committee says, "Forewarned is forearmed; had previous intimation of the rocks ahead been afforded, our difficulties might have been mitigated." Further on the report says, "However, with a favourable monsoon in India, we hope for better conditions as regards food, though the future is still uncertain." One more sentence, and we have done for the moment:—"In conclusion, etc. . . . . , crops per acre and conditions generally will improve, which will enable the employer to increase the daily wage of the labourer."

The report proceeds to discuss the products which concern planters in Ceylon. Short crops in tea seem to have been the order of the day, and the season "may be described as one of the most unfavourable we have known for many years."

Rubber, on the other hand, shows a tendency to increase over previous years, the drawbacks it met with being more than counter-balanced, possibly by the better supervision and certainly by increased cultivation, rather than climatic conditions.

We come next to the Ceylon Labour Commission Report, which really should have a chapter to itself. The enormous increase in numbers during 1919 compared with even the previous best year 1916 (101,401 and 97,671 respectively, actually shipped) is attributed in part to the removal of restrictions by the Indian Government with regard to the recruitment of single cooly men imposed during the war, but Mr. Scoble Nicholson considers the main factor was a condition fast approaching famine which was prevalent almost throughout the recruiting districts. This being so, it is of interest to note from which districts the labour was recruited, and we give therefore the figures for the districts from which the bulk of the labour was drawn :—Trichinopoly 23,826, Tanjore 16,062, Salem 12,270, South Arcot 10,089, North Arcot 9,744, Chingleput 5,102, Madura 5,059, and Tinnevelly 2,467.

The Labour Report is followed by the usual notes on fungus diseases by the Government Botanist and Mycologist, and will be dealt with in another article. The only further point we need mention here is the matter of special measures for child welfare on Estates, which forms the important part of the notes on medical wants on Estates by the P. C. M. O. We are glad to be able to state that the practice of feeding infants and small children on Estates at the expense of the Estate is increasing gradually in South India. We have no P. C. M. O., and indeed, as that official in Ceylon points out, the feeding of the children is not a measure that Government can insist upon by any rule or regulation under existing ordinances. The moral obligation remains, however, and it is obvious that the children left unfed and untended in the lines must suffer directly or indirectly from such treatment. The medical officer suggests the establishment of depots or "creches" in charge of a reliable matron or nurse with experience of children, but under the direct supervision of some responsible estate official.

We come now to the Sixty-sixth Annual General Meeting of the Planters' Association of Ceylon, which was held at Kandy on March 2nd, and was very largely attended. In a leader, the *Times of Ceylon* says the proceedings were over-shadowed by the rice crisis, and indeed from the report, the meeting might have been held for the sole purpose of discussing this question. The Chairman's speech followed very much the usual procedure of these addresses, covering the prospects of the industries concerned, labour, the various funds, committees, etc., in a refreshingly condensed manner. The report of the Committee deals at length with these various activities, and thus saves the Chairman the lengthy addresses to which we are accustomed in South India. Now that we have an Executive Committee, we hope this rule will be adopted, taking the report of the Executive as read and proceeding at once with the business of the day. In fact the case can be put in a nutshell; the Ceylon Planters' Association Meeting occupies one day. In India our Annual General Meeting invariably extends over 4 or 5 days. Conditions are different of course, we are much more scattered. It would be difficult to run various Committees as they do in Ceylon, where distances are less great and more easily covered. Still, there is no reason why we in India should not curtail our Meetings to 3 days, by taking these lengthy reports as read, since they are usually printed and circulated before the Meeting.

The Rice Situation.

Reverting to this absorbing topic, the Chairman, Col. T. Y. Wright, made what our Ceylon contemporary calls a "full statement and strong comments." We wish we had space to publish it *in extenso* and the remarks of the successive speakers, but must content ourselves with a few extracts. The full statement is a *resume* of the Chairman's action from the time when, on March 24th, he received the first indication that the supply of rice to Ceylon was likely to be curtailed. The "strong comments," presumably, are these:—"Ceylon planters are not accustomed to taking knocks of this kind lying down, and we shall fight for all we are worth." Further on he says, with relation to the Indian Government's decision to increase the price:—"It was accompanied by no explanation that rice was costing the Indian Government more, but the bare-faced fact that they intended to make as much profit as they could on food, even at the expense of their near neighbours in the Empire." We have of course to rely upon the newspaper report as it stands, but it would appear from this last extract that Col. Wright means to say the Indian Government actually made this statement, particularly as he goes on to say "the answer we now get is in spite of our old trading connections, *we intend to make an enormous profit out of the food we supply you with.*" The words we have italicised are printed in the report of the speech between inverted commas, which gives them the appearance of being an extract from the Indian Government's actual reply. Col. Wright proceeds to insinuate that further information received to the effect that the ration would be cut down by 80,000 tons was *sent with a purpose*, so that the Viceroy, as a sop to the deputation, could tell them he would raise the allotment again to 360,000 tons. His opinion that the price would not be reduced, *it is money that they are after*, is not borne out by the facts since, as we have seen, the amount has not been interfered with, and the Viceroy, after giving this naughty boy a severe whipping, pacifies him with a bottle of sweets in the shape of a reduction from Rs. 15 to Rs. 12 per cwt. in the price to be charged, on one-half the allotment.

We have mentioned our contemporary's leader on this subject. In it are trotted out again the old tags, one of which, at least, we are rather tired of reading. "The Government of India, as was pointed out by the Chairman yesterday, not only acted in a manner offensive to the spirit of imperial co-operation, but in a manner, etc., etc." We seem to remember this very phrase "imperial co-operation," in connection with a subject which comes very much *a propos* at the moment, in view of what the Chairman actually did say. He is reported as follows (having first referred to our lads having recently fought for Empire, right and justice):—

> "One of the arguments which will probably be used (by the "deputation?) is that the action of the Indian Government may "afford a preference to foreign grown tea and rubber by a heavy "tax on Ceylon produce. It is undoubtedly giving a preference to "Indian tea, unfortunately we have no means of retaliation, etc."

Col. Wright certainly over-stepped himself here, and we hope he and his mentor in Colombo will consider, when they next meet, whether the duty on Indian teas entering Ceylon was introduced in a spirit of imperial co-operation and mutual help or, whether it was done in order to make money at the expense of their near neighbours in the Empire.

Mr. Jas Ryan, who followed the Chairman, is a breezy sort of person who is quite convinced that famine and rice shortage are not the causal factors of the Indian Government's attitude, but that the latter is part and parcel of a well organised system based on the parrot-cry—a very dangerous one he remarked—of "India for the Indians," and that's that. Ceylon's only reply he said was "Ceylon for the Ceylonese," and in this we entirely agree with him. Unfortunately, as he himself is constrained to admit," with regard to food production in Ceylon, he was not very sanguine."

In fact, the fundamental reason for all this clap trap and verbiage is that Ceylon is dependent on India for her labour and food. For years she has known this, and has made no attempt whatsoever to assure her supplies by promoting in the island the production of more foodstuffs. The result is collapse when faced with a crisis from any extraneous cause. And, even now, when it is a year since the first warning was given to Ceylon of trouble in this direction, (the Viceroy made short work of the contention that they were not forewarned) we find all through the report and speeches such remarks as the one we have reprinted at the beginning of this article, in which reliance is placed on the next monsoon in India. The *Times of Ceylon* laments that nothing has been done in the past two years to increase food production in the Island, and, with the excuse that geographical, social and economic conditions limit the possibilities of rice production in Ceylon, is firmly convinced that the future lies in coming to a working arrangement with India. Even after the speeches we have referred to above, a member stated that he thought they should keep quiet over the question of rice production until they knew the effect of any increase (in home production) as far as planters are concerned. It was this member who said there were 750,000 Tamils and five million Ceylonese in Ceylon. The Government of India quite naturally wishes to know what claim the five millions have to be fed by India, to the detriment of its own people. And, after all, what is the whine about? A planter from the Anamallais told the writer the other day that he was paying Rs. 19-12-0 per bag at Pollachi for rice which cost him Rs. 2-8-0 per bag to transport to the Estate. Total Rs. 22-4-0 per bag of 162 lbs., which he sold to the coolies for Rs. 11-2-0. When Burma rice is available the price is certainly considerably cheaper, but even so amounts to anything up to Rs. 18 per bag. That is Rs. 12 per cwt., which is the price Ceylon is called upon to pay for one-half of her supplies. Presuming the Ceylon price to be f. o. b. Rangoon, the freight and transport up-country are matters the Ceylon Government might rightly bear the cost of, but, whether they do so or not, the point is that the South Indian Planter gets only slightly better treatment than Ceylon. Would not the same thing occur if India were dependent upon Ceylon for anything at all? In other words, Ceylon is a Crown Colony, it is not a part of India; if such a suggestion were made on our side, we can imagine the howl that would issue from the Carmelite House of Colombo. India has got something to *sell*, she no more intends to *give* it to Ceylon or anybody else just because she is threatened with a bludgeon and, if any favouritism is to be shown, our Ceylon friends will find that Indian planters are not supine, even if they are not given to foaming at the mouth when their interests are directly affected.

The Viceroy's answer to the Ceylon deputation is the answer of the whole nation, and its tone is the right, the only treatment for an attitude, which, to put it politely, is called "arrogant,"

FUNGUS DISEASES IN CEYLON.

We reproduce hereunder the note on the fungus diseases of rubber in Ceylon, prepared for the report of the Ceylon Planters' Association by the Government Mycologists.

Brown Bast has been the chief disease of interest to the rubber planter during last year. It is now held that this is a physiological effect, probably due to tapping. An account of the latest theories, together with observations on trees whose tapping history has been accurately recorded, was given in a lecture to the Planters' Association, and was published in the local press. A schedule of queries was issued, and replies were furnished from nearly all rubber estates, but it has not yet been possible to summarise these.

The root disease caused by *Fomes lignosus* continues to be prevalent, and fresh instances of extensive attacks are periodically reported. In some cases, these are undoubtedly due to the thinning out, especially where the trees were cut off at ground level. Another frequent reason is failure to treat the first tree which died. It has now been found that stumps of the smooth dadap (*Erythrina lithosperma*) will serve as a starting point for this fungus, as well as the thorny dadap or "Bois immortelle" (*Erythrina umbrosa*) previously recorded.

All cases of root disease which present features differing from the typical appearances of the known root diseases are critically examined, and the cause determined when possible. In this way it has been found that *Fomes lignosus*, in the drier zones, e.g., Kurunegala, may have quite a different appearance from that usual in the wetter districts. In these cases there is practically no external mycelium; the root when wet appears black, and, when the bark is removed, short white lines of mycelium are found embedded in the wood. Further cases of root disease probably due to a *Xylaria* have been under observation. The fructification of Brown Root disease (*Fomes lamaensis*) has been fairly common during this year.

Owing to the continuous rains from July onwards, "Bark Rot" was prevalent during the latter half of the year. Fruit disease and leaf fall were bad in some districts, but on the whole, this disease was not as serious as in 1916. This is to be attributed to the fact that the rains began late, and, where the fruits were sufficiently advanced, the disease did not make rapid headway. The common *Phytophthora* in *Hevea* in Ceylon is *Phytophthora Faberi*, while in South India the only species known on *Hevea* is *Phytophthora Meadii*. During the last year, *Phytophthora Meadii* has been found in one district in Ceylon, so that this country has two species of *Phytophthora* on *Hevea*. As far as observations have gone, the difference in the effect of the two species is very marked; during the leaf fall and pod disease caused by *Phytophthora Faberi*, the flow of latex is not notably affected, but in attacks of *Phytophthora Meadii*, the latex flow diminishes to such an extent that it is scarcely worth while to tap.

Three "Decays of the Renewing Bark" may now be distinguished in Ceylon. There are (1) uniform patches caused by *Phytophthora Faberi*, often starting from the actual tapping cut and continues with a typical claret-coloured patch in the untapped bark, these patches may develop a

white covering of mycelium, and may then be mistaken for the "Mouldy Rot" of the Federated Malay States; (2) a decay which may originate as a spot and develop into black lines, or (?) may develop as a series of black lines from the beginning; this is the Black Thread of South India, caused by *Phytophthora Meadii*, usually a worse form than the other two; (3) a decay which begins as a series of parallel black lines shortly above the tapping cut, and spreads laterally to form a continuous band; this is the common Ceylon form of "Black Thread," and its cause is not yet decided. It is the third form which yields most readily to treatment with Brunolinum and stoppage of tapping. As far as is known at present, the distribution of *Phytophthora Meadii* in Ceylon is limited, curiously enough, the locality known at present borders on a cacao district where the prevalent *Phytophthora* should be P *Faberi*. It would be of service in determining the distribution of P. *Meadii* if Superintendents would report outbreaks of fruit disease on estates where "Black Thread" or "Decay of Renewing Bark" is unusually serious and takes an irregular form.

Several cases were reported during the year in which a tree suddenly dried up, with all its leaves attached, as though killed by a root disease, though the trees were too large to be affected by a root disease in that manner. The leaves were usually curled up, and remained a peculiar pale green for a long time, instead of turning brown. On examination it was found that, on a length of the main stem above the tapping surface, from a height of about four feet to seven or ten feet, the bark was dead, though outwardly it appeared quite sound and unbroken. Large beetle grubs were found beneath the decayed bark, in shallow cavities about the size of a man's hand eaten out of the other layers of the wood, and from these cavities galleries had been bored into the stem. The death of the trees appeared to be due to the attacks of the grubs, which, when hatched out by the Government Entomologist, proved to be those of *Batocera rubus*, the stem and root borer of *Hevea* recorded by Green in 1912. The pest is consequently not a new one, but this effect on the trees has not been noted before.

Observations have been made on leaf diseases of *Hevea*. In the Dutch East Indies, *Hevea* has been attacked by a true mildew (*Oidium*). On receipt of that information, attempts were made to determine whether the mildews found on common Ceylon weeds which belong to the same order as *Hevea* would attack the rubber tree. Experiments were made with the mildew on *Euphorbia hirta* (Bu-da-dakiriya) and *Phyllanthus Niruri* (Pitawakka) without any success; there is a mildew on the common hedge plant, *Jatropha Curcas* (Kata-endaru), which should also be tried, but this appears to be rare, and fresh specimens were not available at the time.

Some cases of "Dieback," differing in some respects from the normal type, have come under notice during the year. In these the blackening and

decay proceeds down the stem, not only along the cambium, but also in the outer layers of the bark, so that, in the early stages, the bark is decayed on both surfaces, but does show any evident signs of decay in the middle. Small oval patches of white mycelium, which turn grey when exposed and kept for a few days, are found on the surface of the wood, and these occur almost down to the advancing edge of the decay. It has been determined that the mycelium belongs to *Kretzschmaria micropus*, a fungus which has been known for some years to be saprophytic on dead *Hevea*, but infection experiments with this fungus have not yet been undertaken.

A peculiar form of scar on the main stem, which has occurred for some years past on certain estates, has been found, consequent on searches in Java, to be caused by lightning. It is also considered in Java that "top canker" is a lightning effect, but, in any case, injuries of the latter type should be treated, to prevent the entry of fungi.

The Deputy Director of Agriculture (Planting Districts).

Mr. R. D. Anstead's Tour.

We give below details of Mr. Anstead's programme during his forthcoming tour. We understand Mr. W. MacRae, Government Mycologist, will join Mr. Anstead at Cochin, and proceed with him to inspect the Mycologist's station at Mundakayam :—

March	14th	...	Leave Coimbatore afternoon.
	15th Morning	...	Bangalore. Night—Mysore City.
	16th	...	Mysore to Sidapur.
	17th	...	Visit Coffee Experiment Station.
	18th	...	Visit Woolygooly Estate (at the request of Manager, to see manurial system, etc.
	19th Evening	...	Mercara.
	20th	...	Cannanore.
	21st	...	Pudukad.
	22nd — 23rd	...	Visit Rubber Experiment Station.
	24th Evening	...	Cochin.
	25th	...	Alleppey.
	26th	...	Kottayam.
	27th	...	Mundakayam.
	28th	...	Peermade.
	29th	..	Visit Tea Experiment Station.
	30th	..	Alleppey.
	31st	...	Cochin.
April	1st	...	Leave Cochin.
	2nd	...	Morning arrive Coimbatore.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 12TH MARCH, 1920.
179*s*./- *per cwt. Market Firm.*

THE BREACH OF CONTRACT BILL.

No excuse is needed for a second reference to this Bill, which has now been passed by the Legislative Council and which amends the Workmen's Breach of Contract Act in the manner previously indicated in these pages. It is of more than passing interest, not only to the many planters who now use the Act, but to many who may possibly find themselves with nothing but this Act on which to base their future contracts. Not that anything we, or the community for which we cater, may now have to say can alter matters in the slightest degree, but because reference to one or two points is desirable, in fact necessary, if only for historical purposes in the future.

In referring to this matter last week, we were guilty of a false promise in making an antecedent statement with regard to Mr. Crum's amendment, but not of an error of judgment in defining Government's attitude towards it. The amendment related to the proviso which the Select Committee amended, in order to fall into line with the argument that an employer, who re-engages a dishonest workman, does so with his eyes open and, having once taken proceedings, should not again be entitled to have resort to the special procedure allowed by the Act. Mr. Crum's contention is that this will work hardly on the cooly, and in this we must differ from him. We accept, in fact, the view that it is a clause favourable to the workman, and, as such was accepted by the Government, on whose behalf Sir William Vincent admitted, as we have all along said, that the underlying intention of the amendments to the Act is to benefit the working population of the country.

In the reports of the debate it will be remembered Mr. Crum is said to have reserved the privilege of moving an amendment to the Select Committee's recommendations limiting the advances made under the Act to Rs. 300. We have, of course, nothing but these newspaper reports to go on, and from these we must presume that the amendment never materialized, since we have seen no mention made of it. Mr. Crum laid particular stress on the point that this would be inadequate so far as Maistries and Kanganies in the Madras Presidency are concerned, and here we have again to record the significant fact that the note on the amendments prepared by the Madras Government was not placed before the Select Committee. We may wonder if this note would have made much difference to the result. Judging by the debate, we may fairly presume, as we have already said, that the Imperial Government had quite made up their minds over this Act, and it would have needed something infinitely more powerful than the representation of the U. P. A. S. I., through the Madras Government, to move the Government of India from the course which had been set. Again, we must realize that Sir William Vincent would appear to have placed considerable reliance upon the advice of the Assam Planters. He made more than one reference to the effect some of the amendments would have upon that community, and went so far, on one occasion, as to give the impression that his reply to one of Mr. Sarma's amendments was based on what he was told by the Assam Planters. Now, as far as planting is concerned, we have to bow to the fact that 450,000 acres of tea in Assam is something very different from 45,000 acres in Southern India, and, even counting the Coffee and Rubber interests in this part of India which work under the Act, we are face to face with a preponderance of 4½ to 1, putting our acreage at about 100,000 when the area in Native States is deducted from our total. The emergent fact, then, of this passing into law of the amended act is that an important minority is effectively squashed, the peculiar conditions of a locality as far removed from Assam as it can be geographically, ethnologically and economically, are to count for naught, and we are once more dragged in to line *nolens volens* by a more powerful neighbour.

The result of these amendments may be summarised briefly before we lay aside the pen, and the matter becomes, as far as we are concerned, *res judicata*. The statement of objects and reasons accompanying the draft bill may be our guide, and we must lay stress on the fact that this begins by stating that the Act (XIII of 1859) has *also been found capable of abuse by employers*. Well, the bill fixes a period of limitation for a complaint at 3 months, it confines the utilisation by employers of the provisions of the act to cases where the advance does not exceed three hundred rupees, and the time for the performance of the contract, where a

time is fixed, to one year. In all cases the Magistrate may, in his discretion, refuse to put the act into operation, if he considers the terms of the contract substantially unfair to the workman, and he may throw out a complaint after examining the complainant on oath, and without compelling the appearance of the workman, if he thinks there is no ground for proceeding. The Magistrate may award the workman compensation if the complaint is false, or frivolous and vexatious.

Further, where a breach of contract has been proved, the Magistrate will have discretion to order either repayment of the advance or performance of the contract, and will no longer be bound by the option of the complainant. He will also have power to allow time for repayment and to order payment by instalments, and, if the order is for the performance of the contract, to fix a time not exceeding one year therefor. Any such order may be varied at the discretion of the Magistrate, but not so as to extend the period fixed for performance of a contract beyond one year.

The report of the Select Committee contains as far as we have seen, no alterations to these recommendations, and adds only the point mentioned earlier on in this article relating to the re-engagement of an employee against whom proceedings have once been taken. Such is the act under which we are called upon to work. Its defects are many, no doubt, but, it is the law, and this being so, it is not necessary for us to lay particular stress on the fact that South Indian Planters may, we feel sure, be relied upon to use it with discretion. The points they wished dealt with have been ignored, it is true, but there is such a thing as *noblesse oblige*, and they will assuredly accept the new act in the spirit in which the European members of the Imperial Legislative Council have accepted the reforms, that is to say they will make the best of a bad bargain, and do nothing to hinder the smooth working of the measure.

SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Mouldy Rubber.

Dr. O. de Vries published, a short time ago, a paper on the effect of soaking rubber in water after it has been coagulated which has a bearing on the problem of mouldy rubber.

The general effect of soaking the coagulated rubber, rolled or unrolled, appears to be that, first of all, serum substances left in it are extracted and this naturally causes a loss of weight, and it also produces a decrease in the rate of cure. It has been found already that the traces of serum left in the rubber produce cure acceleration.

When kept in water for a long time, however, maturation sets in, which causes a further loss in weight, but the rate of cure increases and the original retardation diminishes, or may even disappear and become an acceleration. The accelerators formed in the maturing process are not soaked out, and are formed despite the fact that most of the residual serum has been soaked out by the water. The loss in weight amounts to 0·2 to 0·4 per cent., for crepe, 0·5 to 3 per cent. for sheet, and 0·2 to 2 per cent., for unrolled rubber, depending upon circumstances.

The difference between rolling sheet rubber, with and without water, is small. During rolling the rubber mass contracts, and the serumoozes out and is washed away by the water without any extraction of the serum substances from the interior of the sheet. When the sheets are kept for 5 hours in water there is a considerable extraction, and the rate of cure

is altered, being increased at first and then diminished, as shown in the following table :—

	Standard time of cure.
Directly hung to dry ...	93
½— 2 hours in water ...	109
3— 5 ,, ...	114½
20—24 ,, ...	108
44—48 ,, ...	104
7 days in water ...	55

The effect of the soaking upon the tendency of the sheet to get mouldy, even when smoked, is marked. Dr. Vries found that soaking unsmoked sheet in water for 3 hours diminished the mouldiness markedly, soaking for 24 hours caused a large decrease in the growth of moulds, and 48 hours took it almost entirely away.

In ordinary smoked sheet the state of affairs is not so simple, as the smoke may or may not prevent mouldiness. Dr. Vries quotes cases where drops of water were formed in a wet atmosphere on smoked sheets which contained enough serum substances to develop moulds, but none were formed. In this case the smoke had acted as a disinfectant. It is matter of common experience, however, that smoking, in a large number of cases, does not prevent mouldiness, and so long as this is the case other methods will have to be adopted to prevent this trouble. Amongst these methods, De Vries advises soaking for 5 to 20 hours before smoking.

Keeping the unrolled coagulum in water gives similar results, but the effect differs with its thickness and hardness, and is not so good a method as soaking the freshly rolled sheet. In rolling, the serum substances from the interior come to the surface, and there form a source of nourishment for moulds unless they are removed with water.

Synthetic Rubber.

I have been asked several times for an expression of opinion on the position of synthetic rubber and its likelihood of success in the near future as a commercial proposition, and in how far it is likely to affect the plantation industry. This is a question upon which I am quite unable to express an authoritative opinion, but it may be of interest to rubber planters to quote what is said on the subject in the report of the Progress of Applied Chemistry, issued by the Society of Chemical Industry in 1918.

"Of much more serious import than the discovery of new type of "rubber-producing plants, have been the especially favourable conditions "which have obtained in parts of Europe for the encouragement of the "production of synthetic rubber on a large scale. It would be difficult "to imagine a situation offering greater advantages to a synthetic rubber "industry, and the circumstances have called for a close examination as "to the stability of the foundations of the plantation rubber industry. "In a discussion of the economic botany of rubber production, J. B. Farmer "has made an interesting comparison of the relative possibilities of the "plantation and the chemical factory as sources of this commodity. The "main raw materials of the rubber-producing tree, viz., carbon dioxide "and water, are abundantly available, and the sunlight, which actuates "the natural processes of the plant, can be utilised freely, whereas for the "synthetic production of rubber the raw materials and the processes are "relatively expensive. The conclusion is drawn that, with careful deve-"lopment of the scientific side of the plantation industry, *e. g.*, the "investigation of soil problems, the combating of various fungus diseases, "and the careful selection of seed, so as to increase the disease resist-"ing and rubber bearing qualities, the natural method of producing

"rubber should be able to maintain its present position indefinitely. In "support of this argument is quoted the case of sugar beet, in which by "careful work the yield of sugar has been doubled in a period of thirty "years. Sanguine comparisons of the prospects of synthetic rubber "with the achievements in the commercial synthetic production "of indigo are likely to be misleading, because, not only did the subse- "quent application of scientific method give a renewal of vigour to the "indigo plantation industry, but also because the chemical synthesis of a "crystalline substance such as indigo should be a much simpler matter "than that of a colloid of unknown molecular weight, and of which the "molecular structure is not finally decided. The limited measure of success "attained with synthetic rubber, even under the favourable unnatural "conditions recently prevailing in Germany, was implied in a lecture by "C. Duisberg before the German Bunsen Society for Applied Physical "Chemistry, in which acknowledgement was made of the difficulty of "adapting the product to soft rubber goods, although its application to "more rigid articles, such as solid tyres and vulcanite, appears to have "been satisfactorily accomplished. That great advances have been made "in the large scale manufacture of synthetic rubber is evident, from the "fact that a single factory has been built at Leverkusen to supply 2,000 "tons yearly, but there is no question at present of synthetic rubber "competing generally with plantation rubber in the open market, and "F. Hofmann's demand of a period of thirty-six years for the successful "development commercially of the manufacture to a magnitude equal to that "of the plantation industry does not appear likely to prove excessive. The "fact that, during the last year or so, the investigation emanating from the "plantations and from laboratories associated with them out-number those "dealing with any other section of the chemistry of rubber, renders it evident "that the rubber growers are not likely to lapse into any passive state "towards the competitive rubber synthesists."

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

DISTRICT PLANTERS' ASSOCIATION.

Coorg Planters' Association.

Proceedings of a Quarterly General Meeting, held at the Bamboo Club, Polibetta, on the 26th February, 1920.

PRESENT.—Messrs. G. K. Martin (President in the Chair), J. S. Trelawny, H. R. Trelawny, H. T. Shaw, N. M. Scholfield, W. A. F. Bracken, A. H. Jackson, W. Davies, E. L. Mahon, A. S. L. Grove, J. Hume, E. P. Playford, R. Hamilton, W. R. Wright, H. M. Mann, J. W. Gerrard, J. W. Irwin, A. F. Magniac, E. Clarke, Howard Jackson (*visitor*)—and A. J. Wright (Honorary Secretary).

The Secretary read the notice convening the meeting. The minutes of the last meeting were taken as read and confirmed.

The President read the Association's address to H. E. the Viceroy, and his reply. The delegates were accorded a vote of thanks. Mr. Martin also read his farewell letter on behalf of his fellow planters to the Hon. Mr. Cobb on his pending retirement, and that gentleman's reply. These two letters received the hearty approval of the meeting.

A Memorial to our planters who had fallen in the war was discussed, but pending the pronouncement of the U. P. A. S. I. memorial to include all planters of Southern India, nothing was finally decided beyond having

an identical tablet placed in the Pollibetta and Mercara churches. It had been our wish to join our Mysore friends in memory of the old C. & M. R. days, but possibly the larger idea will meet with more general approval and acceptance.

The Secretary was instructed to enquire about prices of tablets.

REWARDS FOR COFFEE STEALING.—Some letters between the District Superintendent of Police and the Hon. Secretary were read as to whether the Association was prepared to offer rewards for conviction of thefts. The feeling of the meeting was, that it rested chiefly with individuals, and nothing definite was settled.

THE VERAJAPET HOSPITAL.—There was some discussion in the matter of over-crowding. The Commissioner of Coorg had written suggesting that the European planters should contribute towards the upkeep of the hospital, seeing that the proportion of coolies admitted from European estates was roughly six times greater than that of Indian estates. The question was asked whether Indian estates contributed at all, or were called upon to contribute towards the upkeep of even their portion of patients sent.

As regards Europeans, we have a South Coorg Medical Fund, which, at a cost of something like Rs. 18,000 per annum, provides medical attendance and medicines to a large Indian population in that District. Some years ago, during the prevalence of plague in Verajapet the services of the medical officer of the Fund were lent to the Government. The meeting was of opinion, therefore, that European estates in South Coorg had done and were doing their full share in the matter of medical help, and should not be asked to contribute towards the Verajapet Hospital. In the time of Sir James Bourdillon, the then Chief Commissioner of Coorg, South Coorg Planters had asked for a hospital to be erected at Pollibetta. They were prepared to pay for the entire upkeep of the same, but their request was refused.

TRANSPORT BY ROAD.—This subject again came up for discussion, and, in the light of recent correspondence and information gathered, it would appear that the situation was a very serious one. The difficulties regarding the supply of carts to move the coffee crop of this season, though a comparatively small one, is a significant indication of what may be expected next season, when a much larger crop is due.

Ways and means of overcoming this state of things were discussed, and it was apparent that motor transport was the solution, and could and would be provided and put on the roads in ample time for next season's operations. But the obstacle that blocked the way was the state of the bridges and culverts on the main road to the coast. This formed the subject of warm complaint at the last quarterly meeting, the excuse of war conditions not being accepted. The question of bridges and culverts in connection with motor traffic was mooted many years ago, when the late Mr. James Chisholm interested himself in the Renard Road Train scheme, but nothing was done.

Government is generally a century behind the times, and requires constant urging to hasten their steps.

A resolution passed at the last General Meeting on this subject was put to the meeting for reiteration, and was passed. It is as follows :—

" In view of the ever increasing difficulties of transporting produce to " the West Coast, the Association feel compelled to insist on the absolute " necessity of the bridges and culverts on the outlet roads to the West Coast " and Mysore (especially the West Coast) being attended to in the immediate " future, and strengthened sufficiently to permit of 5 ton loads passing over " them."

The Honorary Secretary informed the meeting that he had invited the Executive Engineer to attend the meeting to discuss roads in Coorg. Mr. Platts, however, was unable to come, but wrote a letter which was read, giving details of the state of the different roads, bridges and culverts, from which it appears that there is only one bridge on the Perambady Ghaut (which is the principal road we are concerned with) that is not strong enough to bear heavy lorries, and that he (the Executive Engineer) was preparing estimates for its reconstruction, but he held out no hopes of this being completed before the next carting season began. As regards what was being done on the Malabar side he had no information. The Secretary was asked to write to the Commissioner of Coorg and ask for this information.

CO-OPERATIVE SOCIETY.—The meeting was given the latest news on the subject.

(Signed) G. K. MARTIN, *President.*
(Signed) A. J. WRIGHT, *Honorary Secretary.*

NOTES AND NEWS.

Planters' Labour Act 1913.

A G. O. states, under section 4 of the Madras Planters' Labour Act, 1913, the Governor in Council is pleased to authorise Mr. Edwin Vincent, Superintendent of the Labour Department of the United Planters' Association of Southern India, to attest the execution of labour contracts in the Coimbatore District.

Ceylon Tea.

Extract from the *Ceylon Chamber of Commerce* Weekly Price Current showing particulars of tea railed to various destinations from Colombo for the weeks ending 23rd February, 1st March and 8th March, 1920.

23rd February, 1920.

		lbs.	
Trichinopoly	... ...	620	
Mangalore	... ...	471	
Cannanore	... ...	2,500	
Calicut	... ...	2,800	
Madura	... ...	104	
Tinnevelly	... ...	170	
		——	6,665 lbs.

1st March, 1920.

		lbs.	
Madras	... ...	320	
Kumbakonam	... ...	900	
		——	1,220 lbs.

8th March, 1920.

		lbs.	
Cannanore	... ...	925	
Tirur	... ...	400	
Trichur	... ...	1,250	
Coimbatore	... ...	550	
Mahe	... ...	30	
Ayyampet	... ...	200	
Ramanad	... ...	241	
Mangalore	... ...	450	
		——	4,046 lbs.
	Total...		11,931 lbs.

The Stevens V. Boustead Decision.

As many of our readers are aware, a Joint Committee of the Rubber Growers' Association, the Ceylon Association, the Indian Tea Association, and the South Indian Association, has been maintaining touch with the Somerset House authorities in connection with claims under the decision in Stevens v. Boustead for deduction in respect of annual value from income tax for the years of assessment in 1916-17 and 1917-18. After considerable negotiation, the Board of Inland Revenue have at last notified the Associations confirming the terms agreed between them, that the annual value to be deducted by the owners and occupiers of rubber and tea estates in preferring claims under the above decision for the years 1916-17 and 1917-18, respectively, shall be taken to be 6 per cent of the capital expenditure on purchase and development (including buildings and machinery) of the planted areas as at December 31st, 1915, and that all inspectors concerned are being notified accordingly.

The Councils of the Associations consist for the most part of directors of a large number of the companies concerned. They have, in consequence, throughout the negotiations been closely in touch with the industries they represent and therefore believe that the terms agreed upon will be considered satisfactory by those interested, especially as the benefit of the arrangement is not confined to those who had given formal notices of appeal within the time allowed, but extends to all who have preferred or now prefer claims. Members are advised to lose no time in putting forward such claims to their inspector of taxes.

Telephones.

The Local Government have approved proposals for a telephone connection between Madras and Ootacamund, and the Director of Telegraph Engineering, Southern Circle, has been requested to arrange for the installation at a very early date. A charge of Rs. 3-8-0 for conversations not exceeding 3 minutes will be made.

Agriculture.

Madras Agricultural Department Year Book, 1919. Price As. 12.

This book contains the following notes :—

A note on the experiments carried on in cultivating paddy at Samalkota Agricultural Station by Mr. G. R. Hilson, B. Sc. These investigations were directed to ascertaining the quantity of seed which should be sown per acre of seed-bed, the age at which the seed should be transplanted, the season of the year most suitable for transplantation, and the distances at which seedlings ought to be transplanted.

A second note by Messrs. R. Cecil Wood and K. Gopalakrishna Raju deals with experiments directed to show the distances at which paddy seedlings can most profitably be transplanted in different soils, and the effect of transplanting singly or in groups of two or three.

Mr. J. Narayanamurthi contributes an article on " Duty of water when irrigated from pumps."

Mr. D. Ananda Rau has a note on the economics of the ghee trade, in which he arrives at the disquieting conclusion that the trade only saves itself from bankruptcy by adulteration.

Other notes deal with green manure, a tour in cocoanut tracts of Travancore State, Pears for Jam-making, a fungus disease which is attacking *Acacia melanoxlyon* in parts of the Nilgiris, and the *flora* of the Tinnevelly District.

It should be noted that this Year Book is intended to contain an account of the progress of research on unsolved problems, rather than advice to the ryot on problems the solution of which has already been ascertained.

Copies of the above publication can be obtained for the price noted, on application to the Publicity Bureau, Victoria Buildings, Commander-in-Chief Road, Egmore, Madras.

MARKET REPORTS.

Looking back over past writings on this subject, we come to the conclusion that enough has perhaps been said with regard to the rubber crash, the "Peeters' Default" as it is called, in fact, we doubt if the effects of that *debacle* are now being felt at all by the market in London. We have some diffidence, therefore, in reproducing the following paragraph from *Tropical Life*, and yet, it deals with the matter in a different light, which makes the note more interesting. Our contemporary, in the January issue says :—

"The daily papers just now are full of a raw rubber crash down Mincing Lane, which interests us only as recalling cases in the past of the incorrigible kindness of heart of Mincing Lane, especially towards aliens. The world of song and painting is not the only one where the foreign name is more seductive to the English mind than plain Smith, Brown, or Jones. The victims—so very British—may smile and claim that the net result will be merely so much less excess profits to pay, but it is time a stop was put to one-sided speculations of such a nature. The "Lane" should demand much heavier deposits or "cover," if only to keep the men of straw (when it comes to paying out) at a distance. We remember many crashes similar to this one. First cotton, then sugar, quinine, pepper, sugar again, coffee and cocoa in 1906 or 1907, and so on. Every time the foreign speculator seems to have come out smiling, whether as a winner or loser. We must own that sometimes no one seems the worse for the trouble, but this is not always the case, and so feel that now, when so many changes are being introduced, unlimited speculation without substantial "cover" ought to be discontinued.

We mention this as, of course, the price of raw rubber must feel the effects of such a hurricane; perhaps by now the trouble has been checked, since we are told when rubber went above 2s. per lb. the operator began to sell forward—but in the end he had to re-buy—hence the crash. In spite of this, rubber emerged on January 10th as being still worth over 2s. 9d. for both crepe and smoked sheet, against 2s. 7¼d. per lb. for Fine Hard Para."

Since this was written the market has shown an erratic tendency, though fluctuating only in comparatively narrow limits. Stocks fortunately continue to lessen, and thus remain manageable. The latest figures show them to be 20,979 tons against 15,757 tons a year ago. It is a large stock, but nothing very appalling compared with previous figures, and may easily be made up to a great degree of holdings for foreign countries, Russia for instance, waiting only for more settled conditions to be exported. It would seem, then, that the general optimism is more or less justified. Exchange, of course, remains a disturbing factor, we mean exchange with the Continent and America. Our own rupee has this week come tumbling down, and it would seem a favourable opportunity for rubber planters who have been economising in remittances from home to act promptly, since we have very high authority for stating that exchange will, in all probability, rise again and rapidly, whilst experience has shown us that the price of rubber may very likely follow in its wake. Thus, by the time exchange is up again, planters run the risk of rubber going down to say, 2*s*. 3*d*. and of having to remit this money to India on the basis of a 3*s*. rupee. It is true our latest advices show a steadiness, which is all to the good, and "Macson," in the *India Rubber Journal*, says there is a feeling that we have seen the worst of the fall in value of sterling, a consummation devoutly to be wished.

It will be seen that we have relegated our usual remarks on coffee to second place this week, and really there is very little to be said about it now we have come to it. We may perhaps permit ourselves a little preening, since our statement in a previous article that 200s. per cwt. was a possibility is echoed by our good friends, Messrs. Leslie & Anderson, and the *Produce Markets Review* of 7th February says:—

"As no further supplies are likely to arrive before April, it is certain that second-hand parcels of 1919 stock will be in demand.

Prices continue firm, with a constant upward tendency, and each fall in the rate of exchange increases the price we shall have to pay for fresh supplies. Growers are in a sound financial position, and, as they have not been forced to apply in London for advances, they have complete control of their crop and are not anxious to ship to London, as New York prices are more attractive."

On the other hand Messrs. T. Allan & Co., report, as late as 11th February, as follows:—

"COFFEE.—Since our last the bulk of the coffee on offer has been second-hand, and not very attractive, but it has realised very full prices. There is a good general demand, and early arrivals of desirable quality will realise very high figures. As will be seen by the monthly figures, the visible supply has reached a very low level. The statistical position is strong, but the high prices may have an effect on consumption. It is rumoured that the Sao Paulo stock is being liquidated, but there is no official news.

EAST INDIAS.—Some small shipments (Nilgiris, we believe) have arrived, but it will be some time before they are on the market.

EAST AFRICA AND UGANDA.—Work at the Docks is so slow that only a very little of the coffee which has arrived during the past two months has reached the market—there should be considerable offerings in the near future."

We reproduce below the London coffee returns and the monthly statistics to 31st January:—

LONDON COFFEE RETURNS.

—	Home Consumption.		Export.		Stock.	
	1920.	1919.	1920.	1919.	1920.	1919.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
For week ended January 31 ...	271	306	324	7	19,132	18,624
For 5 weeks ended January 31 ...	1,703	1,255	1,607	416	...	...

MONTHLY STATISTICS TO 31ST JANUARY.

	1920. Tons.	1919. Tons.	1918 Tons.
EAST INDIA—			
Landed ...	57	...	54
Delivered ...	218	46	355
Stock ...	982	96	1,310
ALL AFRICA—			
Landed ...	155	224	150
Delivered ...	182	142	88
Stock ...	990	631	602

	1920. Tons.	1919. Tons.	1918. Tons.
COFFEE OF ALL KINDS—			
Stock in U. K. ...	19,635	19,000	36,500
Total European Imports ...	29,645	3,765	12,825
Do. Deliveries ...	32,825	10,645	18,115
Do. Stock ...	123,825	23,300	154,000
World's visible supply (*a*) ...	529,000	683,080	604,355

(*a*) including the Sao Paulo Government Stock.

Tea.

Messrs. Leslie & Anderson, under date 5th February, reported a better market, prices having recovered ½d. to 1d. per lb., the higher advance relating to common teas, which is a very satisfactory point. Our London friends are inclined to think prices have touched bottom. This view has been borne out by a much stronger market subsequently, and the recovery reached as much as 3d. in the lower grades. Our latest advices are dated 14th February, when there was a very strong demand for all grades, and a general advance of 1d. was quoted. There was very little Ceylon tea obtainable in broken Pekoe under 1s. 6½, and the medium and better kinds, both whole and broken leaf, were 1d. to 2d. higher.

Pepper.

There has been rather more business in both black and white pepper, and prices generally were rather dearer. Quotations in the East were about 1d. per lb. above the parity of spot. The recent advance in the value of the rupee is said to have strengthened the position. Spot stocks, especially of black, are fairly heavy, and, until the export demand improves, little material change can be looked for in spot values.

INDIAN LABOUR.

Meeting of the Committee.

THE ASSESSMENT RATE.

A meeting of the Indian Immigration Committee was held at Kuala Lumpur on Feb. 16th. There were present: the Acting Controller of Labour (Mr. E. W. F. Gilman), the Principal Medical Officer (Dr. C. L. Sansom, C. M. G.), Mr. W. Duncan, the Hon. Mr. F. G. Harvey, Mr. E. E. Smith, Mr. J. Bruce and Mr. E. Macfadyen, Mr. W. J. K. Stark, Acting Deputy Controller of Labour, Klang, acted as Secretary.

IMMIGRATION AND EMIGRATION.

The following figures of arrivals and departures for the year 1919 and for January 1920 with corresponding figures for the six preceding years were laid on the table, the Chairman drawing attention to the increase in the number of minors imported in 1919.

1ST OF JANUARY TO 31ST DECEMBER.

	Arrivals. State aided.		Ordinary.	
	Adults.	Minors.	Adults.	Minors.
1913 ...	83,849	7,387	25,738	1,609
1914 ...	34,247	2,658	13,562	*75
1915 ...	51,278	3,603	19,119	1,196
1916 ...	65,173	6,918	21,801	1,674
1917 ...	7,951	6,456	10,797	873
1918 ...	49,694	5,889	8,901	807
1919 ...	78,910	9,111	11,800	1,612

* Up to August 4th, 1914.

Departures.

	Adults.	Minors.
1913 ...	66.695	3,395
1914 ...	60,408	2,665
1915 ...	48,137	2,183
1916 ...	52,397	2,082
1917 ...	55,423	2,160
1918 ...	49,918	2,214
1919 ...	44,782	1,035

FOR JANUARY.

Arrivals.

	State aided.		Ordinary.	
	Adults.	Minors.	Adults.	Minors.
1913 ...	2,745	2 0	1,665	125
1914 ...	2,149	183	1,223	80
1915 ...	7	...	2	1
1916 ...	2,460	237	892	86
1917 ...	1,967	123	1,370	122
1918 ...	3,158	228	1,266	87
1919 ...	2,072	120	1,499	292
1920 ...	2,581	280	1,518	168

Departures..

	Adults.	Minors.
1913 ...	6,408	247
1914 ...	7,124	313
1915 ...	5,838	293
1916 ...	6,137	222
1917 ...	5,265	226
1918 ...	5,662	183
1919 ...	6,792	246
1920 ...	5,720	260

ASSESSMENT RATE AND RECRUITING ALLOWANCE.

The Committee decided subject to the consent of His Excellency the High Commissioner to prescribe a rate of $6 per labourer as the assessment for the second quarter of 1920. The number of working days to the quarter was fixed at 78.

The very large increase in the rate is necessitated by the fall in exchange. When fixing the rate for the first quarter it was anticipated that a $5 rate would be sufficient for the second, this estimate being based on the exchange then current. The exchange has since fallen by several points. It was also decided to raise the Recruiting Allowance to $10.

Passenger Flats at Penang.—The Chairman reported that he had bought, as approved, two passenger flats from the Penang Harbour Board for the transport of immigrants to and from quarantine station. The sheathing had been finished and awnings of a special kind were being made.

Extension of B. I. Contract.—The Chairman informed the Committee that an agreement had been made with the British India Steam Navigation Company extending the contract for three years from the 11th February, 1920.

Re-employment of Dr. Foston.—The Chairman reported that Dr. E. C. Foston had accepted re-employment for two years, and would relieve Dr. Ford at Negapatam. He was to return as soon as he could get a passage.

Recruiting for Government Departments. The Chairman informed the Committee that it had been decided to re-introduce the system of recruiting

labour for Government Departments, which had been in force before the war.

Home for Decrepit Indians.—In the light of further facts and figures supplied to the Committee, it was agreed not to abolish the Home for Decrepit Indians.

Repatriation.—The Chairman read a letter from the Deputy Controller of Labour, Klang, on the subject of repatriation of decrepit Indians by employers suggesting greater care on the part of employers. All repatriateds should be certified by a medical officer as fit to travel before being sent forward.

Exchange.—The Chairman informed the Committee that he had received a cablegram from Dr. Ford enquiring whether employers had decided to remit labourers' savings to India at a preferential rate of exchange and that he had replied that a resolution that they should do so had recently been passed by the Planters' Association of Malaya, but it was not binding on employers.

Conditions on Immigrant Steamers.—The Chairman stated that no names of gentlemen prepared to travel and report on conditions on immigrant ships had yet been received, and pointed out that the gentlemen selected would have to be invited by the Government and, it was therefore necessary that names should be submitted in good time.

The next meeting of the Committee was fixed provisionally for the 31st March, 1920, at Penang.

(Malay Weekly Mail).

FUNGUS DISEASES AND INSECT PESTS IN CEYLON.

II.

Last week we reproduced for the benefit of our readers the notes on the diseases of Rubber in Ceylon, furnished by the Government Botanist and Mycologist, for the Annual Report of the Ceylon Planters' Association. The following note is a continuation of this and deals with Tea, Cocoanuts, and Green Manures. We have thought it advisable also to reproduce the notes on Insect Pests during 1919 as being of general interest to South Indian Planters.

Tea.

Red Rust was prevalent during the latter half of the year in the Ratnapura district and the Southern Province. As this disease is attributed to weakness of the bushes, it is open to consideration whether the shortage of manures is not beginning to show its effects in this way. In one case, however, where young tea was affected, the deciding factor was probably lack of drainage.

A " Rosellinia" root disease, which presented features differing from the disease caused by the usual species, " Rosellinia arcuata," was found to be due to " Rosellinia bunodes." This fungus had previously been known to attack tea in India and " Hibiscus" in Ceylon. It differs from the usual " Rosellinia" in killing off the bush branch by branch, a single branch, which arises low down on the stem, dying, while the rest of the bush appears healthy. Typical " Rosellinia" mycelium is found at the base of the dead branch and on the main stem or root below it, and it would appear that, in general, an affected bush will ultimately die. Observations tend to show that the disease originates on dead leaves blown into the base of the bush, and that, in consequence, bushes which consist of branches arising from ground level are the more likely to be attacked. It has been found at elevations from 3,000 to 5,000 feet.

Further cases of the root disease caused by " Poria hypobrunnea," the rubber root " Poria," have been recorded.

The principal new tea disease of the year is a leaf disease caused by "Cercosporella Theae." This fungus was first recorded in 1909, when it occurred in an Up-Country nursery on tea plants about 6 in. high. It was not met with again until 1919, when it occurred under different conditions and with more serious results. It is now known to attack both tea and "Acacia decurrens," and recent attacks have occurred on tea interplanted with Acacia. The disease appears during the rains. The Acacias lose their leaves, and sometimes die back, though they may recover if dry weather sets in. The disease is communicated to the neighbouring tea by spores from the Acacias, or by the infected leaflets of the Acacias, which fall or are blown on to tea leaves, and, owing to their small size and flat surface, readily adhere when moist to the latter. In severe cases, or if the rains continue, the tea may be partly defoliated, and subsequently put out buds which do not develop far; in milder cases, or when the rains diminish, a large irregular spot, somewhat resembling Grey Blight, results; while in less serious attacks, circular spots, resembling the bird's eye spot, but rather larger, are produced. Whether this is serious enough to affect the policy of planting Acacias through tea has not yet been decided; it will depend largely on the individual case.

Cocoanuts.

The "Phytophtora" nut-fall of cocoanuts showed little or no improvement during the year. Advices from the Philippines indicate that this "Phytophthora" may be identical with the rubber and cacao "Phytophthora, P. Faberi."

Further field observations were made on the leaf-break, but it has not been possible to carry out detailed laboratory investigations.

Towards the end of the year, a disease of cocoanuts characterised by a "tapering of the crown" was reported. This is considered to be due to a root disease, but it has not yet been determined whether it is the root disease of cocoanuts already known, or a new one.

Green Manures.

Investigations of the fungi which occur on dadaps were begun. The occurrence of "Fomes lignosus" on dadap stumps has been referred to above.

Insect Pests, 1919.

Your Committee is indebted to the Government Entomologist for the following notes on insect pests during 1919:—

Tea.

Shot-hole borer ("Xyleborus fornicatus") continues to be the most important pest of tea. Mr. E. R. Speyer, before his departure, recommended a paint mixture to be used against the borer, and details of the manufacture and application of this mixture are given in circular No. 13. The work of investigation was carried on by the writer until the arrival of Mr. F. P. Jepson, as Assistant Entomologist, to take over the Shot-hole borer investigation—a few estates were visited chiefly in connection with the paint mixture experiments. Several estates were declared infested with the borer.

The remarks of the Assistant Entomologist on the progress of the work during the last six months of the year are given herewith. The Shot-hole borer investigation has been confined chiefly to trials with the soap-rosin-fish oil "paint" mixture recommended by Mr. Speyer. A number of estate trials have been made with somewhat disappointing results, but it is hoped that in the near future definite results will be available when further experiments are completed. Castor-oil "trap-tree" experiments are about to be commenced and also trials in regard to control

pruning with the object of limiting the natural increase of the borer during the months preceding pruning."

During the period under review 33 tea estates and 275 tea gardens have been declared infested with Shot-hole borer, many of these as the result of inspection by the recently established Plant Pests Inspectorate.

Tea tortrix ("Homona coffearia") seems to have been less prevalent than usual during the year, but there have been bad outbreaks in some districts. Spraying experiments were conducted under field conditions by the Entomologists for tea tortrix during the early part of the year, and the results are given in Bulletin No. 46, recently published by the Department of Agriculture.

Only a few reports of other leaf-eating caterpillars have been received. A small outbreak of nettle grub occurred on an Up-Country estate, and was checked before it had done much damage. The specimens sent in proved to be "spatal fimbria Castaneiceps," one of the less common species.

Tussock caterpillars ("Orgyia postica") were reported on two occasions. This insect is a common pest of dadap from which it often gets on to tea. Specimens of the tea leaf-roller ("Gracellaria theivora") were received from two estates. This pest starts as a leaf miner, and then the young caterpillar comes out of its mine and rolls up a portion of the leaf from the tip inwards, feeding inside this shelter. The caterpillars attack both the older leaves and the flush. During heavy rains the water collects in the shelters of the caterpillars and many of them are drowned. The caterpillars often succumb to a wilt disease in wet weather. Control can be effected by plucking and burning the infected leaves.

All leaf-eating caterpillars can be destroyed by the sprays used against the tea tortrix, without tainting the tea in any way. Red borer ("Zeuzera coffæ") was reported from some half dozen estates in different localities, and in one or two instances specimens of this caterpillar were sent in a Shot-hole borer.

The tea-leaf-miner ("Oscinis theæ") makes an irregular silvery white track on the upper surface of the leaf, and gives the leaves an unsightly appearance. The damage is done by the maggot of a small fly.

Termites (probably "Calotermes militaris") have been reported from or observed on several estates during the year, both on flushing tea bushes and on seed-bearers. Since these insects work almost entirely within the bushes and rarely attack the vital portions, their presence is often not detected until the flushing bushes are collar-pruned, by which time the main stem may be a mere shell. In the case of seed-bearers the termites apparently enter a bush fairly high up, usually at some broken branch or other injury, and then work downwards into the main stem and sometimes even into the roots. Badly infested seed-bearers usually die back at the top. The removal of all dead wood, the trimming of broken branches and the tarring of all cut ends are suggested remedial measures.

Experiments are being made with injections of carbon bisulphide, but no definite information can be given about this treatment at present.

The death of a number of bushes on an up-country estate was found to be due to bad infestation of nemadotes or "ellworms" (Heterodera radicicola"). This pest sometimes occurs in tea nurseries, but on this occasion the worms had thoroughly infested the roots of a number of fairly old bushes. Remedial measures suggested include the isolation of the worst infested area by trenches, the removal of all dead and dying bushes, and the heavy liming of the soil.

The hemisphere scale or "brown bug" (Saissetia hemisphærica") was reported on two up-country estates over fairly large areas.

The infested bushes were topped and the prunings burnt, and this treatment is to be followed by an application of manure.

Rubber.

There have been very few reports of any pests on rubber during the year. Specimens of the grub of a large long-horned beetle have been received on several occasions as boring rubber trees. In some cases the specimens were bred out and proved to be "Batocera rubus." This pest is not an easy one to control as it spends most of its life protected within its tunnels. The grubs can sometimes be killed in their galleries by probing with stout wire, or by injecting carbon bisulphide and plugging all holes.

Cocoanuts.

The black-headed cocoanut caterpillar (Nephantis serinopa) continues to be prevalent in the Eastern Province, while outbreaks were reported from two estates in the North-Western Province. The worst of the attack was over by the time that the writer was able to visit these estates and parasites were beginning to assume control. The cutting off and burning of infested leaves to kill the caterpillars, cocoons and eggs; the burning of tar and sulphur smoke fires under the younger trees; and the use of top-lights against the moths should all be tried. Infested areas should receive special cultivation and applications of manure. The distribution of parasites to infested estates is also worthy of consideration.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

Tea and Exchange.

Dear Sir,—In a recent copy of Indian Tea Association proceedings, the following para of interest to S. Indian Planters is found:—

The position of the industry: Rate of exchange. For some time past the Committee have given their close and anxious attention to the doubtful outlook for the tea industry due to the high rate of exchange, and, on 9th February, the following telegram, as set forth in Circular Letter No. 177-0, dated 11th idem, issued to all members of the Association, was despatched to the London Association:—

"Producers on this side view with considerable anxiety serious position of industry brought about by enhanced cost of production, mainly due to current rate of exchange. Committee suggest London Association should endeavour to arrange minimum prices cover cost production calculated at present exchange."

It would be interesting to know if you agree with this gloomy view of the position or not. *Present* prospects certainly *are* not bright with a market down to 1*s.* 3*d.* nett, equal at 2*s.* 8*d.* exchange to just about 5¾ annas, which will only barely cover expenditure; if this continues for another year, how many tea concerns will have to close down, do you think, or, is there a brighter side?

Yours faithfully,

ANXIOUS.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 19TH MARCH, 1920.

185s./- *per cwt. Market Firm.*

EHEU!, FUGACES LABUNTUR ANNI.

About three weeks ago, at least that is approximately the period of time which seems to have passed, we sat down to our first issue of the *Chronicle* under the reorganised U. P. A. S. I. It was as a matter of fact in January, 1919, so that fifteen months have elapsed since that memorable day. Three months of the period, the first three, were occupied in a way with wondering what was going to happen when the changed financial year of the U. P. A. S. I. ended and, with the 1st April, 1919, the new regime would be ushered in. It came without very much in the way of a flourish of trumpets—if the *Chronicle* be accepted as a guide—in fact the only allusion to it, as a date, was the announcement of the change of location of

the Scientific Department and its head. This is perhaps due to the fact that three months of wondering were gradually giving place to a settled organisation of our new home, so that the beginning of the new year became merely a date, the spade work of the previous three months had prepared the clearing and planting would now take place. The period which immediately followed was one of feverish activity. There was much that could only be done by the first committees, those committees themselves, in point of fact, only coming into existence with the beginning of the association's year. The result was a succession of meetings at Coimbatore which must have taxed the patience of the Association's officers, such are the law's delays. Follow this up with the handing over of the Labour Department at the end of June, and it will be seen that the preparations for the Annual General Meeting became an imperative necessity almost before the realization of the change had taken root in men's minds. It follows that decisions were sometimes made a little hurriedly, we will not say they were wrong, our point is that the situation was a little rushed, and few people indeed know what an anxious period it was and what an enormous toil it represented on the part of the Chairman and Secretary. Looking back now, it can be seen that the great thing was to get the Annual Meeting over. That was to be the turning point. The old order would change giving place to new, and much that would take place at the meeting would be the means of smoothing down the rough places, give rest to wearied office-bearers, and generally give breathing space to those who, for 7 or 8 months, seemed to have led a life of constant worry attendant on meetings held in various places, necessitating days of travel and general dislocation of business, both planting and commercial.

It may have had that effect for a fleeting period. Certainly the effect was not lasting, as we shall see when the report of the Executive Committee is issued and some idea of the extent of the Secretary's task is realised from its pages.

So, we come down to this last issue of the *Chronicle* of the present financial year, and may wonder a little at the passage of time in such a seemingly short space. It is indeed hardly credible that a year has passed since the first General Committee Meeting of the reorganised U. P. A. S. I., and the reason for this is perhaps to be found in the impression we may have conveyed in the foregoing paragraphs. Work has not often been defined. Indeed it would not be possible to define that elusive thing which, to some, is an art, to others a means of existence ; to one a drudgery forced upon him by a topsy-turvey system of society, to another a means of helping others. But, if work itself is incapable of definition, its effect is not, and the effect of work, apart from the fact that it puts food into the mouths of the workers, or that its reward is in the achievement, is to help one to forget the passage of time. Without that help one's hold on life would indeed be precarious, nothing could be more distressing than having nothing to do. Time must be occupied even if only by play, a form of work after all, and thus we see the reason why " the fleeting years glide by."

We have mentioned achievement. It would not be of much use merely to forget the passage of time. If the years are not to be wasted, there must be reward in accomplishment. It is because there would not be at the end the reward of achievement that the idle life is not more attractive.

Well, it is too early yet to judge the achievements of the U. P. A. S. I., during the year now ending. We must await the various reports and statistics which will be forthcoming in the near future, and which we have no doubt will show that 1919 has been a year of successful effort in many ways. It has certainly been a year of strenuous endeavour.

THE SCIENTIFIC DEPARTMENT, U. P. A. S. I.

The Behaviour of Lime in the Soil.

A long article dealing with the question of the formation of calcium carbonate from slaked and unslaked lime in the soil has recently appeared in *Soil Science* (*VII. 5.*), compiled by W. H. MacIntire. This paper is very technical, and gives the results of a large number of experiments, but the conclusions reached are of great interest.

In his introduction the author says:—"The practice of applying burnt lime to soils has long been followed as one of the fundamental agricultural arts. Particularly, is this true in European countries? The scientific principles involved in the practice are, however, of but recent and partial development. During ancient times, the beneficial effects upon soil structure and increased plant growth following the use of lime were attributed to the production of a soil condition, known as "sweet." From modern investigations, more particularly in the laboratory, it is now known that the benefits derived from the use of lime are due to its effects upon conditions, physical, chemical, and biological. The amelioration of unfavourable physical conditions, the eradication of various chemical soil constituents of acid or toxic nature, the supplying, directly or indirectly, of plant food requirements, and biological betterment have been urged as compelling independent or collective reasons for the application of lime to soils. While the subject of liming, even yet, has had but relatively limited scientific development, the importance of the practical and economical phase of the question has increased to a marked extent. Even in some newly cleared virgin soils liming is found to be shortly or immediately a profitable treatment, while, in the rejuvenation of worn out and abandoned soils, lime is often found to be a prerequisite."

"Nevertheless in some localities, even to-day, the need of lime is unrecognised or ignored. In many soils which have long been subjected to cultivation the continued demand of plants for calcium as a nutrient, together with its loss by leaching, has resulted in a deficiency of lime, which in some cases has assumed the proportion of a limiting factor. This is often true in the case of residual limestone soils formed in *situ*."

"With the advent of improved appliances and machinery for tillage, and with the development of more intensive cultivation, the transported calcareous soils of more recent origin are now more rapidly depleted of their lime contents. Better aeration results in greater oxidation of soil organic matter, and it follows that the soil solution will become richer in carbon dioxide. Thus a stronger solvent will be furnished for dissolving and leaching of mineral calcium carbonate, or for the hydrolysation and leaching of other forms of lime. Data upon this phase of the subject have been reported by Hall, who states, "the Rothamsted soil, which at the beginning of the nineteenth century must have contained something like a hundred tons of chalk per acre, has now less than fifty, and many other soils which started with a smaller initial stock are beginning to run dangerously short."

"The development of modern crushing machinery, and the advent of by-product limestone, has given a healthy stimulus to the use of lime in the form of ground rock. As a result, the term 'liming' has become a synonym

for application of either burnt or ground limestone. In ancient times, the soft chalks of Europe were dug and made available by being brought to a state of fineness through exposure to the disruptive action of weathering. However, in localities where neither chalk nor marl were available, burning of limestone constituted the only practice which afforded an extensive source of agricultural lime. Hence, while prior to more recent times the question of liming often involved only consideration, *pro* and *con*, of the use of one available form, the burnt oxide agriculture of the present day has to consider, both economically and scientifically, the question of burnt lime versus ground limestone. As a natural sequence there have developed diversity of view point, and division of opinion as to the relative merits and diverse or parallel activities of these respective forms of lime. A general comparative study of the lime problem embraces a wide range of investigation."

"The application of either burnt, air-slaked, or water-slaked lime to soils is followed by the phenomena of absorption and carbonation in sequence, or in the reverse order. The existing soil moisture conditions, and the manner of applying or incorporating, will be the deciding factors in determining the order of change. If the application is in excess of the immediate absorption, co-efficient formation of calcium carbonate from the unabsorbed lime will ensue. In the practice of applying lime, the caustic may be so exposed or handled as to become in large measure carbonated prior to its contact with the soil. Or, again, it may be converted to the carbonate while lying on the surface of a dry soil or dust mulch before its incorporation with the body of the soil. Such a condition of dry surface contact would minimise, if not prevent, absorption until admixture of soil and carbonate was effected."

The results of a number of experiments on the carbonation of lime lead to the following conclusions:—

(*a*) Slaked or unslaked lime, in two to four ton applications, will revert to carbonate more rapidly when left on the soil surface than when mixed with a dry mulch or the moist soil.

(*b*) If an oxide or hydrate application is left on the soil surface for several days prior to inworking, the treatment is in effect an application of finely divided calcium carbonate.

(*c*) Surface applications of slaked or unslaked lime will, for the most part, revert to the carbonate more rapidly during humid atmospheric conditions.

(*d*) If the lime is incorporated within the upper zone of the soil prior to a more thorough dissemination throughout the soil, the concentration thus effected will bring about, in the treated zone, a temporary and partial sterilisation which may have certain beneficial results.

The practical application of these results, which are arrived at after a large amount of study of all sorts of conditions, both in the field and the laboratory, are:—

(*a*) In applying slaked or unslaked lime it should not be spread on the surface of the soil and left, but, after broad-casting, it should be immediately covered by working it into the top two or three inches of soil.

(*b*) If slaked or unslaked lime is spread out and left uncovered and exposed to the air, one might just as well apply finely ground limestone, which would be cheaper, since the result will be the same. Why pay for burning

when the application is made in such a way that it is re-converted to carbonate from which it was burnt, before it is mixed with the soil?

(*c*) The right time to apply lime is in the dry, hot weather before the rains, viz., February, March and April.

(*d*) There is no need to fork the lime in deeply, it is quite sufficient to work it into the top few inches of the soil.

Upon another important point this paper throws a good deal of light, *viz.*, upon the question which is so often raised as to whether the constant addition of lime to the soil does not deplete it too rapidly of organic matter, and thus in the end impoverish it. On this subject the author says: "The statement that caustic lime 'burns up the humus' of a soil is commonly heard in agricultural discussion, and is to be found in many writings. The belief is prevalent that a deleterious action upon soil organic matter follows the use of caustic lime, while no such result is to be attributed to the use of ground limestone. Two view-points are maintained relative to the action of lime on soil organic matter. By one group it is held that the action of lime in the assumed depletion of organic matter is primarily a chemical function. The following citations are typical of this view. 'Richardson believes, 'its destructive action is due to its caustic character. It rapidly destroys humus, and thus tends to rob the soil of its most valuable constituent.' Reineke writes, 'the very fact, however, that they are alkaline, and hence caustic, makes their extensive use dangerous, since caustic lime destroys soil humus.'"

"By another group it is contended that any decrease in soil organic matter, following the use of burnt or hydrated lime, is attributable to the acceleration of biological activities, and hence that the judicious use of lime is no more to be discriminated against than is soil cultivation or fertiliser stimulation, both of which also effectuate the same result."

"It is often stated, with possible justification, that simultaneous surface applications of manure and burnt lime should not be made, because of the loss of ammonia or ammonium carbonate by volatilization. There would appear to be no particular reason why such applications should be made simultaneously."

The chemical destruction of organic matter by lime would involve the liberation of carbonic acid gas, which would be partly or completely absorbed by the calcium hydrate, thus hastening its conversion into carbonate. It is then of interest and of importance, to determine whether the applied lime derives carbon dioxide required for carbonation partly from chemical action of lime on organic matter, as well as from the atmosphere, soil atmosphere, and accelerated biological activities. This phase of the question was studied carefully and experimentally by the author, and the following conclusion was arrived at:

"The avidity or affinity of calcium oxide is for moisture, and, when this is furnished by the aerial and soil atmosphere and by soil moisture, there is no tendency to affect any chemical disintegration of soil organic matter. Neither slaked nor unslaked lime can be considered as chemically destructive of soil organic matter when used in the manner and in the amounts to be considered as practical applications."

It would seem, therefore, that the fetish of soil deterioration by the use of lime is a groundless one, especially in planting districts, with their abundant rainfall, and at the small rates of application, averaging about a ton an acre, usually adopted.

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

Scientific Department, U. P. A. S. I.

Entomological Specimens.

We have from time to time in these pages reprinted, at the request of the Government Agricultural Chemist, the instructions relating to the manner in which planters should pack and forward soil and fertiliser samples for analysis. The system advocated has worked on the whole satisfactorily, the few exceptions serving to emphasize the soundness of the rules laid down, and the large number of samples dealt with prove conclusively that this branch has been of great use to the community. On the Entomological side, however, the planter probably worries the Government Entomologist in a lesser degree than any other branch of agriculture, but, whatever we may have to thank for this, it is as well to be prepared. One has only to read the notes by the Entomologists in Ceylon, which we published in last week's issue, to realise that insect pests are an important factor in that country on planters' crops, and, however free we may at present be from them, these pests must always be considered a potential danger to the industry in S. India.

Apart from this there is the great possibility of new discoveries, so that the instructions we are now publishing, for reporting insect damage and forwarding specimens for examination, must necessarily be of interest and use to us all. Another object in publishing these instructions is to help planters to realize that such a person as the Government Entomologist exists. Mr. Ballard is not personally known to them, as Messrs. McRae and Norris are, which is quite all right if we look at it from the point of view that it means the planter has not so far had to approach him with tales of woe and ravaged crops. It has happened, however, that occasional requests have been received from planters through the U. P. A. S. I. for advice or information concerning insect pests, and, it is because these requests, in common with those he receives from the ryots, are, as a rule, accompanied by very brief and vague descriptions of the insect which is supposed to be doing the damage, that Mr. Ballard has issued the note, through the Publicity Bureau, which we reproduce below.

As a foreword to these instructions the Entomologist writes: "All requests for advice should be accompanied by specimens.

"Reliable methods of prevention and cure are known for some of the worst pests on crops, especially of food crops, paddy in particular; but it is not always realised that remedies are not known for everything.

2. "More often than not the request for help comes too late for anything to be done. Usually remedies, where known, can only be applied in the early stages of insect attack, and too frequently these are not noticed.

"A great deal of time would be saved if everyone when writing for advice did so in the form given below.

"All such letters should be addressed to the Government Entomologist, by his official title, and not by name."

Living Specimens.

Living specimens are always preferred to dead ones; this is especially so in the case of caterpillars, the soft worm like creatures that form the major portion of our important crop pests; for, these are immature insects

and have to be bred out into adults for correct identification. This may not be found possible when the parcel has to travel for more than two or three days; in this case they may be forwarded killed, and preserved as directed below.

When sending live insects they should be despatched, as far as possible, under natural conditions. This can be done by placing them in perforated tin or card board boxes, with a plentiful supply of food material that will last them for the journey. With regard to insects found boring into tree stems or branches, the portion of the stem may be transmitted with the insect in it, with the bore hole plugged. In the case of plant lice and scale insects affecting leaves or stems, the latter, with the insects on them, may be packed in sheets of blotting paper and sent as a packet. Insects living under the soil may be sent with some moist earth in a box.

Dead Specimens.

All soft insects like caterpillars, grubs, etc., should be preserved in bottles or jars of weak spirits, whisky or country arrack; the bottle should then be carefully packed in an outer box and forwarded.

Hard insects like beetles, grasshoppers, etc., may be wrapped in paper and sent packed in saw dust or other packing material mixed with napthalene, or soaked in dilute carbolic acid solution.

Butterflies and moths should always be sent dry: this is done by folding the wings over the body, and enclosing them flat in envelopes. In packing, the insects should never come into direct contact with cotton wool if this material is used for the purpose.

It is advisable not to write the address over the parcel itself, but attach a separate slip containing the address, as this will reduce the chances of the parcel being smashed or jammed by the postal authorities. It is also desirable that the parcel should be sent by the quickest method available, and direct to the Government Entomologist, so that live parcels may arrive quickly and in good condition. The parcels should show the address of the sender also clearly, and, it is better that they are sent unregistered, as they arrive quicker in that case.

All insect parcels should be addressed to

The Government Entomologist,
Agricultural College, Lawley Road P. O.
(Coimbatore).

The report connected with the parcel should contain as much information as possible, on the following points:—

1. Locality. { Village or villages affected. / Nearest Railway station, or town, / Taluk and district.
2. Crop or crops affected.
3. Vernacular names of insect, if any.
4. Date of first notice of the pest.
5. Nature of injury to crop.
6. Extent of injury.
7. Previous occurrence of the pest, if known.
8. Local opinion and control measures adopted, if any.
9. Any facts known regarding the life history and habits of insect.
10. Any wild plant on which the insect is found to feed.
11. Any natural enemies like birds, etc.
12. Any other information available.

If the above instructions are followed, it will be easy for the Entomologist to diagnose the particular insect damage, and suggest suitable remedial methods with very little loss of time.

DISTRICT PLANTERS' ASSOCIATION.

Kanan Devan Planters' Association.

Proceedings of the Bi-Annual General Meeting of the above Association, held in the High Range Club, Munnar, on Saturday, 14th February, 1920, at 2-30 p.m.

PRESENT.—Messrs. M. C. Koechlin, P. G. Campbell, G. A. Holden, A. W. John, W. J. Dixson, E. M. Gamble, J. M. Bridgman, A. H. Dixson, H. L. Pinches, W. O. Milne, A. Yates, J. S. B. Wallace, R. Brown and G. R. Strachan (Honorary Secretary.)

Before proceeding to business, the Honorary Secretary read a letter which he had received from the Chairman, Mr. A. G. Murray, regretting his inability to attend, and, on the motion of Mr. J. M. Bridgman, Mr. W. O. Milne was elected to the chair.

The minutes of the Annual General Meeting, which had been duly published in the *Planters' Chronicle*, of which every Member had received a copy, were taken as read and confirmed.

Minutes of the Extraordinary General Meeting of the Association, held on the 10th January, 1920, were then read and approved, and the following agenda placed on the table :—

1. U. P. A. S. I. General Meeting Delegates' Report.
2. Time for holding future General Meetings.
3. S. I. P. Benevolent Fund.

1. U. P. A. S. I. GENERAL MEETING DELEGATES' REPORT.

Mr. Chairman and Gentlemen,—As you are aware, this Association had no special resolution to bring forward at the 26th Annual General Meeting of the U. P. A. S. I. at which we had the privilege to attend, and, as you have all received a copy of the very complete Book of Proceedings, we are sure you will agree that a lengthy report is both unnecessary and uncalled for.

We will, therefore, simply touch on few points which are of direct interest to this Association.

U. P. A. S. I. RULES.—With reference to the amendment to rule 5, proposed by Mr. J. R. Vincent (Mundakayan P. A.) and seconded by Mr. C. Lake (S. Mysore P. A.), by which each branch of the industries combined in the U. P. A. S. I. would elect its own member on the Executive Committee, your delegates voted against the amendment, on the grounds that it would tend to split up the U. P. A. S. I., and that, in order to obtain the services of the best men, the voting should be as wide as possible. On being put to the vote, however, the amendment was carried by a small majority, and the rule, therefore, now reads as follows :—

"The election of the Executive shall be by ballot, representatives of "each industry to be elected by the votes of the area under the correspond-"ing products only."

INTER-DISTRICT LABOUR RULES.—A very lengthy discussion took place on this subject, and the ultimate decision of the conference was that Rule 8 to 11 be deleted, while Nos. 1 to 7, 12 and 13 be submitted to the Association's solicitors in the first place, and thereafter that District Associations be recommended to adopt them.

It was further resolved that District Associations be recommended to limit the penalties under the Rules to a nominal figure of Rs. 25 for each infringement.

The only other point to which we think it is necessary to refer is the proposed

PLANTERS' CO-OPERATIVE STORE.—As you are aware, the details of the scheme have been left in the competent hands of a select committee, consisting of Sir Fairless Barber, Mr. Lake and Mr. Weston Elwes, and it is to be hoped that the store will soon become an accomplished fact. We have, of

course, our own store in the District, but this is run on such small lines as to make it impossible to cope really efficiently with the large firms in Madras and elsewhere. In these hard times, any scheme which will tend to lower prices must be welcomed by all and, if rumour is to be believed, we as a District stand to gain both by lower prices, and, through the possibility of dealing direct with the co-operative store, as good, if not better, profits from the M. S. A.

The thanks of all planters are due to the Wynaad Planters' Association for their excellent proposal, and to the Members of the Select Committee who are taking so much trouble in the matter.

In conclusion, gentlemen, we thank you for the honour which you did us in electing us as your delegates.

H. L. PINCHES.
G. R. STRACHAN.

Mr. J. M. Bridgman proposed a hearty vote of thanks to the delegates for representing the Association. Seconded by Mr. M. C. Koechlin, and carried unanimously.

2. TIME FOR HOLDING FUTURE GENERAL MEETINGS.—In the absence of Mr. G. P. Walker, at whose request this subject had been placed on the agenda, the Chairman asked if any other gentleman desired to bring the matter forward. As this request met with no response, the item was ruled out of order.

3. S. I. P. BENEVOLENT FUND.—The Honorary Secretary intimated that it had been his intention to read a letter on the subject recently received from the Secretary, U. P. A. S. I. to the meeting, but, as unfortunately this was in the hands of Mr. Murray, he was unable to do so. He, however, gave the Members present a general impression of the contents, and thereafter the remarks which Mr. Murray had intended to make on the subject were read as follows:—"Regarding the letter and circular from "the Secretary of the U. P. A. S. I., you will see that the matter is fast "approaching a critical stage, and it seems to me that it is really up to us to "definitely settle the question whether this Fund is to continue to have our "support or be ruled out altogether. I appeal to this Meeting, that we "cannot allow our Association to figure in a charitable list as taking all we "can get and giving nothing in return. This circular is a grave reflection "upon our Association, and appears to show us up in the worst possible "light. As a matter of fact, individuals have subscribed from this "Association, but I take it their subscriptions have gone in individually, and the position would not appear so bad had these subscriptions been shown as *through* this Association. In any case "the fact remains that subscriptions are shrinking and expenses increasing, "and we must either turn down a deserving charity which we started ourselves, or make up our minds to see it through in style. We all know that "calls on our pockets are increasing almost daily, and our pay and commission are of much less value than they were a few years ago. But, to "put matters in the worst possible light, that is perhaps one very good "reason why every one here should subscribe all he can as, at the present "rate of progress, this Fund may soon be the only resource between us "and our last bottle of whisky! Seriously, though, gentlemen, the Fund "has been worked so far as distribution goes in a way that reflects great "credit on all concerned, and, if you go through its history, you will see it "has really been of benefit in relieving distress and helping unfortunate "planters and their belongings through difficult times. Can any Fund "make a more earnest appeal to us than this one? Surely not. Planters, "as a general rule, are good fighting men, and are never likely to ask help "from any one until they or their families are absolutely at the last gasp,

"and, unless we have some sort of organization to appeal to, we are very "apt to have the unpleasant sight of a good man going West whom we "are able and willing to assist, but have no means of doing so except by "the ancient and clumsy method of circulating a hat at a moment's notice, "and probably finding that our belated effort has come too late. I think "this meeting will agree that our Benevolent Fund should not be allowed "to lapse. It should, indeed, become our own pet charity and first call in "that line, so that any one of our community can feel that, in distress, he "will have this Fund to appeal to as a last resource. I think we should "now settle the following points in their order of merit :—

"1. Are we to support the Fund or not ?

"2. If we support it, how are subscriptions to be collected ? (*i. e.*, through the Association's channels or sent direct.)

"3. Should subscriptions be entirely voluntary or fixed for a year ?"

The points enumerated by Mr. Murray were then put to the Meeting, and it was unanimously decided to support the Fund.

Mr. A. W. John proposed, and Mr. H. L. Pinches seconded, that subscriptions be collected through the Association, and that a list be circulated to all members not present at the meeting asking them to specify the amount they are prepared to subscribe annually. Carried unanimously.

Annual subscriptions to the extent of Rs. 100 were promised by members present, exclusive of those who had already subscribed for 1920.

Before closing the proceedings, the Honorary Secretary intimated that the Association's nominee, Mr. J. Mackie had been duly elected as planting member on the Travancore Legislative Council.

With a vote of thanks to the Chair, the Meeting then terminated.

(Signed) G. R. STRACHAN, *Hony. Secretary.*

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held on 2nd March, 1920.

PROCEEDINGS.—The proceedings of the last meeting of the Committee, held on the 17th February, 1920, were confirmed after previous approval in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON).—Letters dated 29th January and 5th February now came up for consideration and record. The principal subjects dealt with in these letters were the following :—

(*a*) *Scientific Department—Extension Scheme*—In the letter of 29th January, reference was made to the scheme for the extension of the Scientific Department, the particulars of which were given in Circular No. 5, dated 7th January. With regard to the question of the increased expenditure involved, and the additional subscription which this would necessitate, the London Committee stated that they were in full agreement with the General Committee in Calcutta, that it was better to incur such expenditure as might be necessary to put the Department in an adequate position to deal with the work than to sacrifice efficiency to economy.

(*b*) *Warehouse congestion.*—There was forwarded a copy of the following letter, dated 22nd January, addressed by the Secretary of the Tea Clearing House to the London Association, in reply to the latter's letter which was printed in the proceedings of last meeting :—

I duly received your letter of the 12th instant.

My Committee note that your Association agrees to the proposed

allocation of teas for warehousing as purely an emergency measure, which shall end when the present congestion is overcome. They have now arranged to put into operation the allocation scheme which, although it will not overcome the existing difficulties of congestion, it is hoped will alleviate the position. My Committee assume that you will notify the members of your Association.

As already explained, the view of the warehouse-keepers is that the difficulty can only be really overcome by increased and regular deliveries from the warehouses, but instead of the desired increase the deliveries have been less, necessarily resulting, in proportionately increased stocks.

My Committee note that your Association are pressing for the removal of all export restrictions. I have sent you a copy of the letter addressed to the Ministry of Food by the Port of London Authority and of the reply received, but, with reference to this particular question, my Committee assume that you will agree that this is a matter which should be pursued by the trade with the Government Department concerned.

The London Committee had informed the members of their Association that the scheme indicated would be put into force without delay.

(c) *Regulation of Sales.*—It was mentioned, in the letter of 29th January, that this matter had been engaging attention, and that the following resolution had been adopted at a meeting of the London Committee:—

"That, in the opinion of this Committee, the recent severe fall in the "market price of tea, to a figure which, in many cases does not cover the "cost of production, is not justified, and, in order to re-establish stability, "they recommend that, for the weeks commencing February 9th, 16th, 23rd "and March 1st, importers should restrict their weekly offerings in public "auction to not more than two per cent. of the unsold balance of their crop. "During this period, no private sales to be effected other than for teas "*ex ship* or *ex quay* for foreign markets."

The resolution had, it was stated, been circulated to importers and brokers, and it was hoped that sufficient support would be forthcoming to enable the proposal to be carried out.

The Committee discussed the question of regulation at some length. It seemed to them of the utmost importance that the trade should agree to regulation with reference, not only to the balance of the crop of the 1919 season, but also with reference to that of the new season; and, as a corollary, they were emphatically of opinion that all private sales, without any exception, should be stopped during the period to which regulation might be applied. This arrangement worked well while it was in force up to a year ago, and the Committee were very definitely of opinion that it had been of advantage to the trade. They decided, after discussion, to wire to the London Association as follows:—

Please refer to your letter 29th January this Committee strongly in favour of regulation sales 1919 and 1920 crops, both Calcutta and London, and stopping all private sales without exception during period of regulation.

SUPPLIES OF RICE TO TEA GARDENS.—This question came up for discussion at the last Committee meeting, on February 17th. The Director of Civil Supplies had now intimated that the Government of India had sanctioned an import allotment of 5,000 tons of Burma rice, *via* Chittagong during March. It was arranged that the Chairman should interview the Director after the meeting, to consult as to the method of effecting an equitable distribution of this shipment, with particular reference to the necessity of ensuring that such quantity as might be intended for tea gardens should be actually made available to them.

A letter dated 22nd February from the Chairman, Dooars Planters' Association, forwarding copy of a letter on the subject received by him from the Government of Bengal, was to be recorded.

INCOME TAX: LIABILITY OF TEA COMPANIES TO THE PAYMENT OF INCOME TAX.—As arranged at last meeting, the revised case in this connection had been returned to Messrs. Orr, Dignam & Co., for final adjustment, and subsequently the prepared case was received from them and passed on, for transmission to Government, to Messrs. James Finlay & Co., Ld. A letter dated 27th February had been received from them intimating that the statement of case had now been forwarded to the Board of Revenue, Bengal. A copy of Messrs. James Finlay & Co's covering letter was also received, in which they reminded the Board of an agreement with the former Secretary to the Bengal Government, that the case would not be submitted to the High Court without both the Revenue authorities and the Killing Valley Tea Co., Ld., on whose behalf the statement was filed, being allowed every opportunity of approving or objecting to the case as finally drafted.

SCHOOL OF TROPICAL MEDICINE, CALCUTTA.—A letter on this subject had been received from Lt.-Colonel Sir Leonard Rogers, I.M.S., Honorary Secretary of this School, in which he expressed a hope that the Association would be able to supply, by October 15th, 1920, the Rs. 20,000 promised in 1915 as the amount which the tea industry undertook to contribute annually for five years to the institution. A Governing Body of the School of Tropical Medicine Endowment Fund had, it was explained, been constituted under the Charitable Endowments Act of 1890. Sir Leonard Rogers further requested the nomination of one member to serve on the Governing Body as soon as the promised subscription should have been paid.

The Committee discussed the position. At the time when they invited the Association to agree to subscribe Rs. 20,000 per annum for five years, they suggested that subscriptions should be on the basis of 1 anna per acre, and at this rate the subscriptions promised exceeded Rs. 20,000. The Committee had no doubt that, in view of the increase in acreage since the appeal was made, additional subscriptions would be forthcoming. The basis of 1 anna per acre was, however, a convenient rate of subscription, and any excess each year could either be carried forward with a view to reduction of the basis later, or it could, if subscribers were agreeable, be reserved and possibly contributed to the Pasteur Institute, Shillong, should the proposals for reconstituting the Institute, which were now believed to be under consideration, be proceeded with. As the first payment in connection with the School of Tropical Medicine was not evidently required until October, it was decided to defer, meantime, issuing a circular on the subject to members of the Association, as it was thought that possibly by that time the negotiations in connection with the Pasteur Institute, Shillong, might have taken definite shape.

THE FINANCIAL POSITION OF THE ASSOCIATION.—The Committee had considered, in circulation, a note dated 24th February, with which the audited accounts of the Association, and of the Scientific Department, for 1919, were submitted. In view of the position as shown in these, and of the estimates of expenditure of the Association and the Scientific Department for 1920, it had been agreed to propose, at the annual general meeting of the Association on 12th March, that the rate of subscription for 1920 should be 6 annas per acre, *i.e.*, an increase of 1 anna over the subscription for the past year.

OCEAN FREIGHT AGREEMENT: TEA RATE FOR MARCH.—A letter dated 28th February had been received from the Bengal Chamber of Commerce, intimating that the tea rate for March would be £7-10-0. Members of the Association had been informed to this effect, and the letter was now to be recorded.

LABOUR.

From time to time we have endeavoured to keep our readers *au fait* with what other countries are doing to attract the South Indian labourer, and it will be remembered that we published, recently, a short paragraph to the effect that the Malacca Planters' Association had adopted a resolution recommending its members to compensate the Indian cooly, when sending his savings back to India, for the rise in rupee exchange by which the dollar had become equivalent to the rupee, against an exchange of Rs. 175 for dollars 100 in the past. This question came before the General Meeting of the Planters' Association of Malaya in January last, and we reproduce *in extenso* the discussion which took place, because it enables planters to compare the means which Malaya intends to adopt with those already adopted by a large number of estates in S. India in preparation for the coming struggle for labour.

We are indebted to the *Malayan Tin and Rubber Journal* for the following account :—

Rate of Exchange to India.

Mr. Harvey announces that the Standing Committee wish to put forward three resolutions on this subject, which were decided upon as the result of two sittings of the Standing Committee at which this question in all its bearings was thoroughly discussed. He reads the resolutions :—

1. That it is extremely advisable, in view of the future successful recruiting of labour from India that all estates in Malaya agree to allow an exchange rate of Rs. 175=$100 on all *bona fide* remittances by labourers to their relatives in India for the current year.
2. That it is not at present necessary to increase the usual daily rates of pay.
3. That the practice of supplying rice to labourers below cost price be continued.

He and Mr. Kennedy, as well as others, had interviews with Mr. Scott of the Madura Company, who reported that Malayan planters would be up against many recruiting rivals in the near future. Ceylon is embarking upon an entirely new system of recruiting, following Malayan lines. Other countries are also extending their activities, while the requirements of India itself was rapidly increasing, and all are looking to Southern India for the labour they require. It appears to him to be very evident that Malayan planters are not going to have things their own way in the future. Mr. Scott's great point was that, whereas formerly the cooly who came to Malaya got Rs. 1¾ for every dollar he saved, now he gets only one rupee, to say nothing of the possibility of his receiving less than a rupee if the rate of exchange becomes still more adverse as far as this country is concerned. Mr. Scott thinks this fact weighs more with the cooly than anything else, although it is admitted that coolies are well housed and well treated in Malaya. He is sure all present are aware that the demand for labour was increasing day by day, and he feels sure that in the years 1920-21 the demand will be greater than it has ever had been before. The Standing Committee, therefore, considered it very necessary to go thoroughly into the matter, and had put forward certain proposals for the guidance of D.P.As. They also came to the conclusion that what they wanted chiefly was to get coolies, and, with that purpose, they did not

consider it either necessary or desirable to raise wages; but it was eminently desirable to offer greater attractions to the Tamil cooly to come over to the F. M. S., and thus endeavour not to be left behind in the competition with which they were being faced by other countries. They could be quite sure of one thing, and that was other recruits in the field would make a great point of asking the cooly why he should go to Malaya, where he got only one rupee for one dollar, when he might go to other countries on more advantageous terms. The Standing Committee put forward their proposals in order to refute such an argument. There were a great many issues depending on the matter. He says, Mr. Kennedy in Committee had adduced three reasons why recruiting will suffer in Malaya, namely, (1) Rate of Pay, (2) Cost of Rice, (3) Adverse Exchange. Either they had to increase the rate of coolies' pay, or give compensation for adverse exchange and continue issuing rice below cost price. The Standing Committee think that rates of wages in the country are adequate, and they do not consider the time has come for raising them. He is aware, it has been alleged, that their suggestions were put forward in order to camouflage the issue; but it would be extremely rash definitely to decide to raise wages all round by 50 per cent. as suggested, especially is this so in view of the rumour that the dollar will sooner or later be raised in value. If the exchange goes up, the compensation they would have to pay would be decreased. If rice became cheaper they could automatically do away with the loss they are incurring. He refers to the discussion which took place at a meeting of the Kuala Lumpur D. P. A. a few days previously on this subject, at which a member described the difficulties they would have to face in the matter of exchange compensation as insurmountable, while another called them unsurmountable. He is not aware that any difficulties will be met that cannot be overcome, if estates create the necessary organisation. Mr. Quartley had outlined to the Standing Committee, a simple method by which compensation on remittances could be worked and controlled. The member of the K. L. D. P. A., to whom he referred, thought a good deal of unrest would be caused among coolies if their wages were not raised. His own view is that coolies are perfectly satisfied with the wages they are getting. They know they are better off here than in their own country. Estate tappers, for instance, are paid exceedingly good wages, especially when working on the contract system. He is convinced that the matter cannot rest where it is just because 1919 had been a splendid recruiting year. He thinks they should spare no effort, especially having regard to the enormous developments that were taking place in the F. M. S. Labour is recruited not only for estates, but for other industries as well. The prosperity and development of the country were dependent upon an adequate supply of labour. He calls attention to the other side of the picture, as represented by another member of the K. L. D. P. A., who had stated that the concessions advocated by the Standing Committee would be a good advertisement, and might attract sufficient labour to Malaya, in which case all labour troubles would be done away with. The question of the rate of compensation was one for consideration. The Standing Committee had recommended Rs. 175 for $ 100, but there was no reason why these figures should not be amended. He saw Mr. Gilman the previous day, who was of opinion that Rs. 150 for $ 100 would be a better rate. Mr. Gilman's reason for this was because it was more likely that that rate would be generally accepted by all planters. The average rate for the first half of 1919 was Rs. 150, which rate had been adopted by the Malacca P. A. He himself is inclined to agree with Mr. Gilman, but the Standing Committee put down

Rs. 175 for $ 100, as they desired to give the cooly Rs. 1¾ for every dollar, as he has been able to get in the past.

Mr. Kennedy is in whole-hearted agreement with Mr. Harvey, and thinks the question of the future is the supply of labour for this country. It is one of the most serious and difficult problems that agriculturists have to deal with. The question planters have to decide is what policy will most favourably impress coolies in India—a general rise in wages or compensation for loss on rate of exchange and continuing to supply rice at less than half cost price as at present. One of the attractions in Malaya has been that, for every dollar a cooly saved and remitted to India, he received Rs. 1¾. He is inclined to the belief that unless some attractions are offered, the recruiting of labour will certainly suffer very severely. He therefore thinks the better course is to compensate the cooly for loss on exchange, and to continue to supply him with rice below cost price, than to adopt a policy of general increase in wages. Further, he considers that such a course would have an infinitely greater moral effect on coolies in India.

Mr. Harvey says Mr. Quartley suggested that, to prevent any abuse, Managers should make it a condition that no cooly should be permitted to remit more than 50 per cent. of his earnings every month. The idea is that a Savings Bank or Deposit Account should be started, into which the cooly could pay in up to 50 per cent. of his wages when he received his wages. Thus, a cooly who had a balance of $8 to draw would be allowed to deposit $4, and that money would be held over for him until such time as he had sufficient money to remit India, when the estate would apply for a money order at the preferential rate of exchange. If some such scheme was adopted, Managers would be able to check abuses, as no cooly would be able to obtain money from outside. In the event of a cooly wishing to return to India he could withdraw his deposit, and his Manager could give him the preferential rate of exchange on the production of satisfactory evidence that he was returning to India.

Mr. Ash expresses ths opinion that compensation for exchange when remitting money to India would benefit the bachelor more than it would the family man, as the latter migh tbe able to save only a little money to remit to India, and would, therefore, derive no benefit, whereas, if wages were increased, all would benefit alive.

Mr. Bennett understands coolies would have to pay the market price for rice if wages were raised. He does not see the necessity for the family man to remit money to India at all, since his family is here.

Mr. Oliver says the idea of the whole matter is what is going to make this country more attractive to cooly. Was the fact that he will be able to send more money to India going to attract the cooly, or would he be more attracted by the fact that he will be better off in this country than any other? By giving a preferential rate of exchange they were going to make conditions attractive, not only to the spendthrift, but to the thrifty as well. His own opinion is that the spendthrift type of cooly is more valuable than the thrifty one, because he spends all his money here, and is a good type and is quite contented with his lot, whereas the thrifty cooly saves as much as he can with a view of remitting to India. If wages were raised, the report would spread throughout India that coolies were given high wages here, and in his view it will attract more labour than the fact of allowing coolies compensation for loss on exchange.

Mr. Graburn thinks, if the Standing Committee's proposals are adopted, that the anti-recruiters in India will be deprived of one of their strongest weapons. He is quite sure that the unfavourable exchange rate is a most

valuable weapon of anti-recruiters, and a preferential rate of exchange would have a most salutary effect upon recruiting.

Mr. Tivy says, his Association has not been able to discuss the matter, owing to the short notice given him that these resolutions were to be brought forward to-day.

Mr. Ferguson enquires whether, in the event of the resolutions being passed, the P. A. M. has power to cause them to be carried out. In his view it would have exactly the same effect as any attempt to bring wages to a uniform rate. He presumes that any resolutions that may be passed will only be advisory.

Mr. Harvey replies that the resolutions are only recommendations put forward by the Standing Committee for the guidance and consideration of delegates. He is aware that the Association has no power to procure the adherence of Managers to any of them. What is desired is that the the P. A. M. should express itself as being strongly in favour of the recommendations contained in the resolutions. Then, no doubt, every member would do his best to carry them out.

Mr. Hendrie enquires what percentage of money has been remitted to India by coolies during the last year or two.

Mr. Harvey replies, in 1918, out of a total of 140,000 coolies, 32,793 remitted $1,644,555=Rs. 2,244,555, or 15 per cent. of the total payments in this country.

Mr. Oliver claims that the figures given support his theory. They showed that only 15 per cent. of their labour was benefitted. He would like to know what happened to the remaining 85 per cent.

Mr. Harvey regrets that Mr. Oliver is unable to understand the point that the recommendations were not for the benefit of those coolies who are now in the country, but for the benefit of those who would be coming to it.

Mr. Orr suggests that compensation should be Rs. 150 for $100.

Mr. Bennett thinks it far more advisable for the cooly to be given Rs. 175 as before. If they made it Rs. 150, anti-recruiters and recruiting rivals would still be able to make capital out of the argument that the cooly is still the loser on the old exchange rate.

Mr. Bailey is of opinion that, if compensation is fixed at Rs. 150, their rivals in the recruiting field might offer better terms.

Mr. Jeavons asks the Chairman what the delegates of his Association should do. They wanted more time to consider the question. Their members were very divided on the subject. He would like to know whether they should vote at this meeting.

Mr. Harvey is of opinion that delegates have the right to use their own discretion. He does not see how they could be bound by instructions from their D. P. A's., unless those instructions were explicit and had reference on a definite issue. The matter before the meeting is an urgent one, and, he is of opinion that delegates should vote as they think.

Mr. Lawford says the Kedah P. A. is in favour of the resolutions and of compensation at the rate of Rs. 175 for $ 100.

Messrs. de Bondy, Bennett, Bruce, Kennedy, Tate and Oliver state that the respective Associations from which they are delegates, namely, Central Pahang P. A., Batu Tiga D. P. A., Negri Sembilan P. A., Malay Peninsula Agricutural Association, Taiping D. P. A., and Klang D. P. A., are in favour of the resolutions.

On the motion of Mr. Harvey, seconded by Mr. Fane, the resolutions are put to the meeting, and carried *nem con.*

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

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Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 26TH MARCH, 1920.

185s./- *per cwt. Market Steady.*

LAND GRANTS.

We notice, in the *Malayan Tin and Rubber Journal*, an article regarding the F. M. S. Government scheme, which has recently been published, for the granting of land free to those who have returned from the war. We have nothing whatever to do with that country or its Government, but we can at once take off our hat to it for introducing this scheme, which our contemporary says has been drawn up at least in a spirit of sympathy and generosity and which, whatever its results may be, cannot fail to benefit those whom it seeks to reward. Before we consider the possibilities of a similar effort on the part of the Government of India, we may perhaps be allowed to indulge in the repetition of a few points from the source of our information. It is, for instance, interesting to note that the scheme applies as much to ladies who served in any one of the recognised auxiliary branches of the British Army as to the men. Primarily, preference in the matter of allotting land will be given to those who volunteered within the first six months of the outbreak of war, and who practically gave up lucrative employment and sacrificed their personal interests when they went to fight for their country. Following on this first batch comes those men who left

after the first period of six months, and before the end of 1917. Applications for land under the scheme must be made before the end of June, and allotment will be proceeded with as expeditiously as possible by the various State Committees. The only other point we need mention here is that one-quarter of the area allotted must be brought under cultivation within the first year. Now, as far as the Federated Malay States are concerned, there are one or two difficulties which have to be faced by those who are anxious to make the scheme the success it deserves to be. The area of land available in certain States is limited; on the other hand, in at least one District large areas suitable for rubber planting are available, and the scheme would appear to offer, from an economic point of view, the stimulus and incentive necessary for the developement of that District, the resources of which still remain largely undeveloped. The great difficulty which confronts our Malayan friends, however, is that of labour. To develop this scheme, thousands of Indian and Chinese coolies would be required at a time when already the question of providing labour for existing properties is acute. We have often enough dilated on this question here from the standpoints of food and exchange difficulties not to need elaboration of them further. That they do exist is undoubtedly an established fact, and, if, as our contemporary assumes, at least 100 applicants are granted an aggregate amount of 10,000 acres, even admitting that only 2,500 acres of these grants are brought under rubber in the first year, the question arises, with indeed a sinister aspect, as to how such a large area can be developed without an abundance of labour. In view of this fact, and in order that the scheme should be given a fair chance of success, it is suggested that allotment should be delayed until labour recruiting prospects are brighter.

It will be remembered that, perhaps a year ago, a well-known Shevaroys Planter placed a scheme before the U. P. A. S. I. for just such grants as those we have alluded to, and we believe we are correct in saying that the Ceylon Government have a similar scheme in formation. The scheme suggested for South Indian Planters included money grants or loans from Government, to enable returned men to tide over the unproductive years, such loans to be repaid, under certain conditions, when the areas became productive. It is not of much use discussing now the merits or demerits of that scheme; suffice it to say that the idea was turned down by the ruling powers after consultation with each district. But a point emerged from that enquiry to the effect that, although the scheme as presented appeared to be unsuitable, some such plan for placing returned planter-officers on the land should engage the earnest attention of Government in the near future. We have heard nothing of the matter since, but we cannot believe that the Government of India will fail to fall into line and do this justice to those who have fought for us, who did so without thought of reward, and who are now deserving of this practical expression of the country's gratitude in the time-honoured, and, certainly, to the planter, most appropriate manner a land grant.

We may now consider one or two difficulties which may be expected to occur, if only for the purpose of afterwards showing how they may be overcome, or rather that they are by way of being bogeys. First, perhaps, would be the fact that so many of our planters have gained the greater part of their experience in Native States, and in the event of their taking up land in this way would naturally wish to take it up in the District to which they are accustomed. Certainly by so doing they would have a much fairer chance of success, from which something would have to be discounted if the grants we are confined to certain areas and the applicant were uprooted, so to speak, to be replanted in a strange environment which would at once

handicap him. Again, we differ from the F. M. S. and, in a degree, from Ceylon, in the fact that our men would be drawn from the ranks of Tea, Coffee *and* Rubber planters, so that some discrimination would be necessary to avoid happenings analogous to the historic instances of land grants turning out to be excellent prickly-pear country, but of little use for anything else. A tract of country is not wanted, a series of parcels of land in various districts is, and, since the number of applicants in a small community like ours would not be excessive, we see no reason for turning down such a suggestion. This does not, however, dispose of the question of Native States, which can only be settled by a spirit of magnanimity on the part of the Mysore, Travancore and Cochin Durbars. These countries happen to be eminently suitable for our purpose. The people have become used to the presence of a large European planting community among them, there are in these states areas of undeveloped land whose opening up would have an immense economic value to the State, the majority of the planting districts, if need be, have room for expansion, and it only remains for these Governments to indicate to the Government of India their willingness to co-operate for such a scheme to be a success. Two more stumbling-blocks would appear to prevent themselves when the land difficulty is surmounted, they are labour and finance. We do not think that there would be so much difficulty regarding labour as in the F. M. S. or Ceylon. Certainly in the rubber Districts our grantee would be fortunate in this respect. The climate and conditions generally are such as the soul of the Indian loves. What is to us a steamy, liver-distending menace, is to the cooly a warm, soft, balmy paradise, so different from the hard treeless sandy wastes of his home, or the cold, too-bracing breath of the uplands. But even there or in the medium elevations, if the grants are not isolated territory in the inaccessible fastnesses of our beautiful hills, the number of extra coolies required should not be such as to defeat the ends of our purpose. There would need only to be some little extending of the helping hand, perhaps on the part of the established planters, especially those large Companies which are expanding in all directions, and all would be well. We must confess that, with regard to finance, the difficulty requires more careful consideration, and we are not prepared to say offhand that it is one that could easily be overcome. Neither are we ready to put forward at this too early juncture a series of views, which we have received, showing how divergent men's theories are in this respect. That the difficulty will be overcome, however, we do not doubt, and on this point, particularly, we would welcome any contributors to our correspondence pages who may be interested in this subject.

SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Manuring of Rubber.

The general benefit to be obtained by highly manuring crops is illustrated in Denmark. Danish agriculture is carried on with a very high degree of intensity and efficiency; the farmers there are well-versed in the scientific use of fertilisers, and take a special interest in obtaining the largest possible return from their land. All manures are applied in the form of superphosphate, nitrates, and potash, and there is no market for mixed or special compound manures. A Trust, known as the Danish Fertiliser Co., has practically a monopoly of the fertiliser supply, and owns several superphosphate plants with an annual capacity of some 200,000 tons. The farmers' associations have now formed a co-operative society for the pur-

pose of buying and distributing fertiliser supplies, and this association is expected to import over 150,000 tons of superphosphate and to become a formidable rival to the Trust. The remarkable result of this intensive farming is shown by the following table of yields as compared with those obtained in the United States :—

		Average 1909-1913.	1917.	1918.
Wheat.	Denmark ...	44·5	32·8	45·0
	United States of America ...	14·7	14·2	15·6
Rye.	Denmark ...	28·6	20·5	23·5
	United States of America ...	16·1	14·7	14·1
Barley.	Denmark ...	42·4	27·7	39·0
	United States of America ...	24·3	23·7	28·9
Oats.	Denmark ...	48·4	30·8	44·4
	United States of America ...	30·6	36·4	34·5
Potatoes.	Denmark ...	210·0	225·0	214·0
	United States of America ...	97·0	100·8	...

It will be noted that the increased yields due to constant manuring are very marked indeed, in some cases being 300 per cent. higher. This is all the more emphasised by the drop in yields during 1917, when fertilisers could not be obtained on account of the war. The partial recovery in 1918 is attributed to unusually favourable climatic conditions.

Now, if this can be done with these crops, it may well be asked why can it not be done with rubber? The answer to that question is that probably it can, but we do not yet know enough about the needs of the rubber tree, or the best conditions under which to grow it. The cultivation of rubber cannot be said to be intensive, and many things combine to depress the yield and neutralise the effect of manures, such as diseases, too close planting, loss of top soil, want of selection of high-yielding strains, etc.

Phytophthora Meadii, the fungus which causes the secondary leaf-fall, is an important factor in the manuring problem. It is no good manuring trees which have not sufficient foliage to enable them to assimilate it, and, when attacks of this fungus are bad, the full benefit of manures is not obtained, and it would be better to spend the money on disease prevention work.

It is difficult to estimate exactly how much crop is lost by the attack of this disease, but it is probably more than is usually thought, and, in the months when it is at its worst, may be in the neighbourhood of 50 per cent. In the Annual Report of the Ceylon Planters' Asssociation for 1919, it is stated that the rubber in the Colony is attacked by two species of *Phytophthora*, *P. Faberi* and P. *Meadii*. The difference in the effect of the two species is very marked. During the leaf-fall caused by P. *Faberi* the flow of latex is not notably affected, but in attacks of P. *Meadii* the latex flow diminishes to such an extent that it is scarcely worth while to tap the trees. It will thus be seen what a profound effect this disease may have upon manuring, and incidentally the results of any manurial experiments.

Apart from this, however, it is difficult to discover what system of manuring will suit rubber best and produce a good result, and most of the experiments laid down to try and solve this problem have so far given negative results.

That manuring improves the general health of the trees, protects them to some extent from disease, increases their growth, and is generally advisable is, however, admitted on all sides.

The following figures are given by Bamber, as representing the composition of 100 eleven-year old Hevea trees planted on an acre, in pounds :—

Lime ...	235	Soda ...	174
Magnesia ...	73	Phosphoric Acid ...	81
Potash ...	144	Sulphuric Acid ...	31

These are the main things to be considered from the manurial point of view, since very little plant food is actually removed in the rubber crop. 400 lbs. of dry rubber only contains 1·25 lbs. of mineral matter.

Now, when we turn to analyses of South Indian soils, a number of which, over a wide range of districts, are now available, we find almost without exception that they agree in being deficient in lime and in available phosphoric acid. The total phosphoric acid content is usually high, but there are large quantities of oxides of iron and aluminium also present, and this, in the absence of lime, means that it exists in the form of insoluble phosphates quite unavailable to the trees.

The average content of these substances in South India rubber soils, obtained from the analyses available, together with some of the highest and lowest values recorded, are shown below :—

	Average %.	Highest.	Lowest.
Lime	0·25	0·95	0·05
Oxides of Iron and Aluminium ...	28·66	...	...
Total Phosphoric Acid ...	0·08	...	...
Available Phosphoric Acid ...	0·0034	0·028	0·0007
Total Potash ...	0·20	0·85	0·04
Available Potash ...	0·01	0·027	0·003

This deficiency of Phosphoric Acid and Lime, both of which ingredients, it will be noted, the rubber trees needs in considerable quantities for its structure and growth, is quite general in South India soils. Attention was called to this fact in the last annual report of the Travancore Agricultural Department, in which it was stated that, "a soil survey of the State is being made, and this bears out the generally considered opinion that soils in Travancore are, as a rule, deficient in phosphoric acid, and that out of the total present the percentage available is abnormally small."

Potash, of which the rubber tree also requires large quantities, is, as a general rule, sufficient, but its necessity should not be lost sight of.

Now an acre of soil, 9 inches deep, may be taken as weighing two million lbs. Hence, we can convert the above table of average food content into lbs. per acre as follows :—

	Lbs. per 9 inches acre.	
	Average.	Lowest.
Lime	5,000	1,000
Total Phosphoric Acid ...	1,600	...
Available Phosphoric Acid ...	68	14
Total Potash	4,000	...
Available Potash	200	60

When we compare this with our first table showing the composition of eleven-year old trees at 100 per acre, we see at once that the margin of safety is small, even when we allow for the fact that a certain amount of fresh plant food becomes available in the soil each year. How much this is, it is impossible to say, and it depends upon methods of cultivation to a great extent.

Out of a possible 1,000 lbs. of lime, at least a quarter is needed by the tree as actual plant food, and, in addition to this, the lime is needed to counteract acidity. Turning to the phosphoric acid, we see at once that

the needs of the tree cannot be supplied unless a good deal becomes available each year, and there is a very marked deficiency of this plant food in some soils. The potash, as a rule, is sufficient, but, as noted before, in some soils it may be deficient.

These plant food deficiencies are of wide importance, and the deterioration in yield of crops is very often primarily due to the conditions of soil more than to attacks of fungi which may be considered rather as a sequel to soil deficiencies. In a paper read by Professor Armstrong at a meeting of the Royal Society of Arts, not long ago, he dealt with this subject of soil deficiencies in India, and he laid stress on the effect which the deficiency of any one ingredient in the soil necessary to the health of a plant may have upon its life. He adduced the case of some lands in Australia, for instance, on which it was found impossible to grow wheat, but the application of a small amount of phosphatic manure led to productive crops of this cereal. He was of the opinion that the forced abandonment of coffee cultivation in Ceylon may have been really due to soil deficiency which enfeebled the plants, rendering them an easy prey to the attacks of leaf disease. He uttered a warning that what happened to coffee in Ceylon may possibly happen to rubber. May not our Brown Bast trouble be quite possibly connected with soil deficiency?

Enough has been said to show that the main manurial needs of our rubber soils are lime and phosphoric acid, and efforts should be made to learn how best to supply these, more especially phosphoric acid combined with green manures.

(To be continued)

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

TAMIL LABOUR IN CEYLON.

The Penal Clauses.

We take the following from the *Malay Weekly Mail*. It will be seen that it is by way of being a resume of the report of the Committee appointed by the Ceylon Association in London, and that the crux of the whole business is that the Association accepts the suggestion that the debts of the Indian coolies in Ceylon should be cancelled and that a period of five years in which to do it should be granted. We hope to return to this question in a subsequent issue. Our contemporary says:—

The Ceylon Association in London has agreed to the cancellation of coolies' debts in five years, and has adopted the report prepared by a Committee appointed to deal with the Ceylon labour question. There is much in this report of interest to Malayan planters. It lays down that the views of the man on the spot should prevail, but points out that, even on essential points, the planters are not unanimous. The Immigrant Labourers' Ordinance contains provisions which, it is felt, involve a complete revolution in the law and methods that "have in the past built up the unrivalled immigrant labour force of the Island," establishing as it does an absolutely autocratic Controller, and converting the suggested Immigration Board into a purely consultative body. The Committee had to consider the question of expense. The history of Ceylon's planting industry shows that the average return from capital invested has never been large. For many years it was little or nothing, and, it is only since rubber became a staple that substantial profits have been made. "Whatever vicissitudes (says the report) the future may have in store for rubber, tea

cultivated in countries having cheap labour. There is a danger that the new proposals may increase costs to a figure that will seriously affect the permanent prosperity of the estates. The direct immigration costs will certainly be much more than at present per head per annum, and, if common-sense and moderation are not allowed to rule in other matters mentioned in the Ordinance, the less favourably situated estates will have difficulty in carrying on. It was the relatively high cost of labour in the Straits that prevented the cultivation of tea in Malaya, but the cost under the suggested Ordinance may conceivably raise the Ceylon rate to a higher one than that which proved prohibitory in the case of the Malay States."

Nevertheless, Ceylon is prepared to shoulder her burden cheerfully. To quote the report again :—

" The matter of the cancellation of the labourers' present indebtedness to the estates (estimated at possibly four millions sterling) stand in a different category to the framing of regulations for the working of labour, and the views of those whose money and interests are concerned must be given the fullest consideration. There has never been any indication that the interests represented by the Ceylon Association in London would refuse to agree to this unprecedented proposal, provided it was reasonably certain that the sacrifice would achieve the end in view." And, it is a sacrifice. It is curious how averse officials are to calling things by their right names. Recently, in Singapore, we had H. E. the General arguing that compulsory military service in peace time was not conscription. Now it appears that the Ceylon Attorney-General has declared that the loss of advances is not really a loss of hard cash. This is, of course, absurd, for (as the report points out) in every case hard cash has been given by the estate, and given free of all interest. As regards the cancellation of debts, the report asks that Government shall help, by loan, such proprietors as require assistance. The question of coolies' debts to kanganies is also dealt with in the report. The Attorney-General, it seems, has proposed that such sums should be determined at the absolute discretion of a Commissioner as between the cooly and the kangany, and then the employer (no party to the case at all) is to be made to pay up the amount. The report severely criticises this suggestion, and says :—" As the sketched provisions read, an employer might be compelled to pay up to his kangany debts alleged to be due by distant labourers, who were not on and never had been connected with his estate, or indeed upon any estate ! The Attorney-General expects cases to be so numerous that, if litigated in the ordinary manner, a most serious congestion of the work of the Courts would arise. This gives some indication of the number of cases that are expected to come to the Commissioner for settlement ! " It is not surprising to find the Committee asking that the Ordinance should provide safeguards to prevent collusion, and for a planting assessor to sit with the Commissioner to decide disputed cases. The report also contains an interesting reference to labour offences and penalties, which we hope to discuss later.

Those Penal Clauses.

It is not surprising to find that, on the question of the penal clauses in the old Ordinance—which it is proposed to abolish—the Committee take the conservative or " veteran planter ' point of view. They argue that, in agriculture, it is necessary that the man who sows shall have a reasonable certainty of reaping, and to secure that end there are many special conditions and arrangements that do not apply to other industries. In Ceylon, circumstance made civil redress futile, and offences that might endanger the

cultivation of the estates, the harvesting of crops, and the maintenance of order were very reasonably given a quasi-criminal character, balanced, however, by putting on the employer similar quasi-criminal penalties for offences on his part. It has been, and should (the Committee contend) continue to be, recognised that the circumstances of the Ceylon estates, often isolated and generally far from any substantial police or other protection, with a couple of thousand Europeans scattered amongst half-a-million labourers, required that offences of disobedience and insubordination (the usual preludes to riot and outrage) should, if necessary, be punished at law. "The generally excellent character and behaviour of the immigrant labourer may not remain proof against the influence of the bad characters amongst them, or in the bazaars, when it is realised that the present deterrents, so very seldom put in force, have been removed. The planting community has suggested that these quasi-criminal responsibilities, hitherto valued as deterrents, might be cancelled. It is well that the community should clearly understand that effect is given to their wish, and, if other governing conditions remain as they are at present, there will be absolutely no punishment for any labour offence. There will not even be the usual civil redress common to every employer in other civilised countries, and, of all the monthly servants in Ceylon, the only ones free to do as they please will be the immigrant labourers."

The Committee go on to argue that, when such radical alterations in the previously existing systems of recruiting and employment are a matters of experiment, it seems unwise that all steadying influences should be swept away at the same time. They suggest as an alternative that, while the present labour offences should remain offences, suitable fines should be the substantive punishment, and that imprisonment should only be enforced when the fines are in default, and it is further suggested that, as the proposed labour registration may make the tracing of an absconding labourer feasible, it would be well to make civil redress possible by making damages for breach of monthly contract enforceable at law. We can sympathise with the argument as to the removal of steadying influences, more especially at a time like the present, when unrest is rife among labourers all over the world. But there are other considerations which cannot be ignored. The *Times of Ceylon* pertinently reminds the Committee, firstly, that it is not possible to defend the retention of the obnoxious clauses in order to provide a safeguard against a danger to which all industrial concerns in the world are subject, and, secondly—and more important—that, however cogent and powerful the arguments against the abolition of the penal clauses may be, they are not likely to be of much avail against the agitation which is now making itself so strongly felt both in Ceylon and India. Assam has already abolished these clauses. That is to say, a precedent has been established. Southern India is about to abolish them. Sooner or later, probably sooner, Ceylon—and Malaya!—will be called upon by the Government of India to follow suit. No one who observes the signs of the times can doubt that the universal abolition of the penal clauses is coming. The question for the planter, then, is whether he shall do it on his own initiative, or wait until he is made to do it. The former is, at any rate, the more dignified course.

QUERY.

Would some planter's wife kindly give me a recipe for a simple freezing compound for settling jellies, and so forth?

MRS. W. MORRES,
Manantoddy P. O.,
N. Malabar.

MARKET REPORTS.

Coffee.

The feature we have to chronicle this week is the fact that the long looked for 200s. has been reached in public auction. In Messrs. T. H. Allan & Co's list, dated as far back as 25th February, we find A. B. Karumu, a Nairobi mark, 10 packages sold at 19-6, and two packages P. B at 202s. These are small lots, no doubt of specially selected parcels, and we should be flattering ourselves if we were to consider them indicative of an early jump to those figures for the general run of "A" coffees. They are, however, indicative of what buyers are prepared to pay, if necessary, for good coffees, and the steady rise we have been able to announce through our weekly coffee cables may confidently be considered as the forerunner of even better things to come. On such a high market, of course, it is only natural that the lower qualities should be slow. A month ago only one or two lots of East Indian had appeared, fair quality, Costa Rican seed at 185*s.* per cwt., and we see from Messrs. P. F. X. Saldanha's local circular that they have received a cablegram from London that first arrivals of Coorg Plantation coffee have been sold at 187*s.* per cwt. We are unfortunately obliged to pen this note several days earlier this week than is usual, and are thus without our coffee cable or the latest information concerning the market. A small lot of Woodlands (Nilgiris) was sold in Mail week at 160*s.* for P. B., which represents a fair average of the prices realised.

Stocks in Europe, February 1st, according to Messrs. During and Zoon, show an increase for January of 61,000 bags against a decrease of 94,000 bags during the same period last year; the total being 2,308,000 bags against 22,37,000 bags previous month, and 434,000 bags last year. The visible supply shows a decrease for the month of January of 561,000 bags against an increase 291,000 bags same time last year, the total being 6,263,000 bags against 6,824,000 previous month, and 8,582,000 bags on January 1st, 1920, showing a larger relative deficiency of 231,900 bags.

Rubber.

There is very little to report regarding this market. Messrs. Leslie and Anderson say that, with the continued shortage of American orders, the market declined slightly more than 1d. per lb. on the week.

The price of off grades declined rather more than Standards, and there is some possibility of the market becoming over-loaded with these qualities unless importers are willing to sell at lower prices than they have recently been receiving.

The stock in London has been reduced to less than 20,000 tons, deliveries having exceeded imports by 800 during the past week.

The Late C. A. B. Bartels.

We regret very much to announce the death, at the Middlesex Hospital in London, of C. A. B. Bartels, Superintendent of the U. P. A. S. I. Labour Department, Chingleput. The late Mr. Bartels was a retired Police Officer, and first joined the Labour Department at Bellary under Mr. A. F. Martin. We extend our sympathy to his widow, whose loss we share. By his death the Labour Department is the poorer for a most conscientious and hardworking officer, whose place at Chingleput will not be easy to fill.

TEA STATISTICS.

The Indian Tea Association publishes the following figures for information:—

Exports of Indian Tea from Calcutta, Chittagong and South Indian Ports.

		1920. lbs.	1919. lbs.	1918. lbs.
Sailings to Great Britain from Calcutta in January 1920—				
Black...	15,395,434	15,395,434	22,883,698	31,015 316
Green...	*Nil.*			
Sailings to Great Britain from Chittagong in January 1920—				
Black...	6,783,356	6,783,356	3,747,105	7,913.191
Green...	*Nil.*			
Sailings to Great Britain from 1st April 1919 to 31st January 1920 (including Chittagong) ...		275,233,498	224,124,266	191,765,466
Sailings to Australia and New Zealand in January 1920 ...		572,268	*Nil*	758,739
Sailings to Australia & New Zealand from 1st April 1919 to 31st January 1920 ...		3,780,926	6,749,451	7,697,600
Sailings to North America in January—				
Black ..	1,777,639	1,777,639	88,717	3,922,024
Green...	*Nil.*			
Sailings to North America from 1st April 1919 to 31st January 1920 ...		12,209,563	2,389,948	34,003,484
Sailings to other places in January 1920— (see below)				
Black...	925,818	925,818	751,358	1,082,583
Green...	*Nil.*			
Sailings to other places from 1st April 1919 to 31st January 1920 ...		8,954,356	13,615,835	23,982,031

The following are the shipments from Southern Indian Ports during the month of January 1920, *viz*:—

Cochin—

To London ..	480,626	
Asiatic Ports.	38,591	lbs.
		519,217

Tuticorin (direct)—

To London...	281,865	
Colombo...	145,297	lbs.
		427,162

		1920. lbs.	1919. lbs.	1918. lbs.
Quilon— *Nil.*				
Alleppey— *Nil.*				
Calicut—				
To London... 370,087				
Colombo... 70,969				
Bombay ... 8,931	lbs. 449,987			
		1,396,366	2,831,536	4,850,413
Do do from 1st April, 1919 to 31st January, 1920 ...		24,257,312	32,401,261	21,395,670
Total Sailings from 1st April, 1919 to 31st January, 1920 ...		324,435,655	279.280,761	278.844,251
Daily customs entries for export from Calcutta to Great Britain from 1st April, 1919 to 31st Jan. 1920—				
Black 210,002.275			210,002,275	
Green *Nil.*				
Do do from Chittagong				
Black 65,870,846			65,870,846	
Green *Nil.*				lbs. 275,873,121
Do do from Calcutta, 1918-19				
Black, Green	*Not available.*		*Not available.*	
Do do from Chittagong 1918-19—				
Black 44,640,771			44,640,771	
Green *Nil.*				
Exports from Calcutta to Bombay by rail from 1st April to 31st of January, 1920 ...				lbs. 8,842.354

* Exports of Tea from Ceylon as per Ceylon Chamber of Commerce Price Current Figures.

				lbs.
Total Exports from 1st January to 16th February,			1920...Black	14,689,310
Do.	do.	do.	...Green	251,029
Do.	do.	do.	1919...Black	18,461,041
Do.	do.	do.	...Green	86,912
Do.	do.	do.	1918...Black	12,514 582
Do.	do.	do.	...Green	105,073
Do.	do.	do.	1917...Black	16,820,008
Do.	do.	do.	...Green	510,025

These figures are obtained from manifests completed up to 16th February; incomplete manifests prior to that date are not included.

Statement showing the destination of exports of tea to sundry ports during the month of January 1920.

	lbs.	lbs.
Aden	25,900	
Africa—Italian East	21,371	
Ceylon	60	
Cape Colony	154,766	
China	600	
Egypt	272,603	
France	6,000	
Greece	10,350	
Guatemala	4,458	
Holland	28,620	
Italy	22,330	
Japan	50	
Mauritius	3,220	
Natal	53,743	
Norway	100	
Roumania	46,515	
Turkey Asiatic—Levant & Black Sea.	1,120	
Do. European	89,934	
		741,740
Akyab	3,276	
Rangoon	180,792	
Port Blair	10	
		184,078
*Total...		925,818

*The above figures are included in the exports shown above.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

To The Editor,

Planters' Chronicle, Coimbatore.

Land grants to returned Soldiers.

Dear Sir,—I write to ask you if anything has been done by the Government of India, or is in contemplation by them, to formulate a scheme of land grants to returned soldiers, such as I believe is being done in the Federated Malay States and in Ceylon. It is only just that those of us who left our billets, and joined up early in the war, should be compensated in some way for the loss we have sustained in thus having, some of us, five years of our lives taken from us as far as our careers are concerned. Many of us have returned to billets on practically the same pay as we were getting before the war, only to find our contemporaries of 1914 promoted to managerships, and drawing twice our pay. It does not seem fair, but we do not grouse about that. We do feel, however, that we should be given the same opportunities as those now being given in Ceylon and Malaya to launch out on our own, even in a small way. It would help us to even things up a bit. Can the U. P. A. S. I. do anything in this matter for us? I feel sure if the Executive Committee were to formulate a scheme the Madras Government would sympathatically consider it, and move the Government of India on our behalf.

Yours faithfully,

"Carnatic."

(N.B—We deal with this matter in our Editorial—Ed. P. C.)

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 1ST APRIL, 1920.

185s./- *per cwt. Market Steady.*

RUBBER RESEARCH.

In August last year* we referred in these pages to the proposed scheme for the better organisation and co-ordination of rubber research in Malaya, and in the course of our critique we appear to have passed a remark which the *Tropical Agriculturist* has seized upon, and which, separated from the text, may appear misleading. Our contemporary, in commenting in its issue for February 1920 on the two schemes put forward by Mr. Lewton-Brain and Dr. Butler, says:—"One point deserves special notice. Mr. "Lewton-Brain states, 'It is necessary, therefore, to take care that considera- "tions of disease control, while taking their proper place, do not unduly "influence any scheme to provide for all-round research work;' and he does "not provide for any additions to the mycological staff of the Department. "The remark is, of course, a platitude—there is no reason, why the "provision of mycologists should influence any other appointments, as

* P. C. Vol, XIV, No. 32, 9-8-19, Page 508. "Ruboer Research in Malaya".

"the rubber industry is not exactly bankrupt.—but the hearing of the "observation lies in the application of it. A writer in the *Planters'* "*Chronicle*, commenting upon the two reports, writes 'we do not find Dr. "Butler emphasising, as the Director of Agriculture does, the secondary "importance of plant diseases.' That is worthy of contradiction by the "Director of Agriculture of the Federated Malay States."

Well, the last thing we would wish is to enter into a controversy with the *Tropical Agriculturist*, or with Mr. Lewton-Brain, because we are quite sure that we can each claim that we are out to do our best for the planting industries, and anything which tends, particularly in the matter of diseases, to help the planter over a difficult problem must necessarily receive our heartiest support. Mr. Lewton-Brain gave us the impression in his memorandum that he placed more importance in the question of research than in the fear of diseases and pests, which, he said, had somewhat distorted the planters' point of view. We would like it to be remembered that our own opinion happens to be that of the practical planter, and we certainly sympathise with the proprietor of a Rubber Estate in South India, who has not got that important link, the field staff, between the research branch and the actual grower.

The point however is that the question of research work has passed since the war, into a higher sphere, and it ought not to be necessary for planters and rubber-producing companies to concern themselves with it. So long as the two branches, research and disease treatment, are under one control so long shall we be faced with the position so admirably put by a writer recently in *Production* on Research and Industry.* He says :—

"An eminent British Scientist recently boasted to the writer that during "eighteen years of deep scientific research he had not obtained a single "result that could be turned towards purposes of industry, commerce or "manufacture, in other words that he had succeeded in being clever without "being the slightest use or value to the world."

We would not like it to be thought for one moment that we are, against research work in rubber. We agree as everyone must, and we have said so in the place already cited, with Mr. Lewton-Brain's dictum that there is a great necessity for more really fundamental research work in connection with the production of raw rubber, for example, research on the biology of the rubber tree and the chemistry of factory procedure in preparing rubber for export in a suitable form. We agree with the need for more co-operation and co-ordination between Mycological and Chemical workers in the East, but, as practical planters, we consider the immediate paramount necessity for planters in South India is the appointment of the Rubber Mycologist already sanctioned, and for whom the station at Mundakayam is now complete. It is far more important that the Mycologist should at once get to work on Brown Bast and other diseases in South India than, for instance, that he should spend eighteen years in being clever without turning out one single piece of work of value to the Rubber Growers of South India. Few industries could afford such a luxury, which is one of the privileges of Governments. Professor Farmer, of the Imperial College of Science, and Dr. Butler when the latter gets his Imperial Bureau of Mycology going, are the type of men, and Institutions, who may safely be left to impress upon the Imperial Government the need for Research Institutes in tropical countries. The latter gentleman is, in fact, against the idea of research at home and

* *Production*, March 1920, No. 43. Research & Industry by G. Basil Barham, M. Inst. M, and C. E,

favours the conduction of research on the spot, but it would obviously be of advantage if the home institutions arranged to keep in touch with research workers in India and elsewhere, so that, in case of need they could give advice where to obtain the temporary services of an expert on some particular matter of urgency outside the capacity of a local department to deal with. Be that as it may, and coming back to our muttons, Mr. Lewton-Brain may contradict, and quite probably will, our statement that he emphasises the secondary importance of diseases, in which case it would be better for him to reconsider his memorandum and lay down now the requisite organisation he considers necessary for disease treatment and scientific advice, reserving for further elaboration after consultation with his own and the home Governments, a scheme for more fundamental research.

One word more, in order to quote again from Mr. Barham's article. He says two impressions, both equally unfortunate, have grown up in connection with industrial research. The one, prevalent amongst those fortunate enough to be able to follow science for science' sake, that it was undignified and unworthy to soil one's hands with a commercial process or one's mind by any thought of ultimate profit of a monetary kind, and the other, prevalent amongst parents and guardians that a scientific career offered no prospects of advancement, and that, if a boy had an aptitude for Chemistry or Geology or Mineralogy, the best thing to be done is to take it out of him with a club, and put him in a bank or a counting-house.

There is profound truth in the above statement. We are personally of opinion that research workers are born, and not made. They show an aptitude in early life, and such being the case should be ear-marked for research and brought up in the way they should go. It would be a mistake to take, now, from their present useful spheres the few men we have available and convert them into research workers, a position for which many of them are probably most unfitted. Research is a laborious process. It can only be built up by years of careful study and patient plodding. That is why we reverse with all due respect to the Scientists, Mr. Lewton-Brain's sentence and say with all sincerity, so far as South India is concerned, "it is necessary to take care that considerations of fundamental research while taking their proper place, do not unduly influence any scheme to provide for disease control."

SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Manuring of Rubber.

(Continued.)

KERALA MANURIAL EXPERIMENTS.

The problem of Rubber manures is by no means a simple one. With the object of trying to throw some light upon it, some manurial experiments have been conducted on Kerala Estate for the last five years, and these are still being continued. The results obtained have been published from time to time in the *Planters' Chronicle*, and they are herein brought up to date. Owing to the war and the shortage of fertilisers and the impossibility of getting some kinds of these at all, the experiments have been a good deal vitiated from a scientific point of view, because the system has been changed. Also, thinning out had to be done, and this was probably begun too late. However, the figures are published, as we think they may prove of interest to rubber planters, and it is possible that they may be of some use.*

[* We hope to reproduce, in our next issue, Table II, a diagram showing in curves what is given above, in Table I, in figures. ED.—P. C.]

One of the most disappointing features of these experiments is the fact that the unmanured plots are, taking them all round, the best, but it will be noted that Plot 8 is beginning now to lose its place. With regard to the Lime and Phosphoric Acid treatment, it will be noted that Plot 4 is now recovering its position, and that it began to do this after being limed, while Plot 9 maintains its position. Plots which have been limed have, on the whole, done well, thus Plot 3 keeps high. Plot 1 also has done well as has Plot 2. Plot 6 had a tendency to fall directly manuring was stopped. Plot 10 is worthy of note, since it steadily maintains its place, showing the possibility of using mineral phosphates. Potash on the whole has a fair effect.

The most disturbing factor in these experiments is probably the closeness of planting, and the lateness of thinning out. If the trees are allowed to remain crowded till they have lost their crowns and become mere scaffold poles, thinning out probably has little effect, as the damage is done, and no lateral branches will ever be formed again. A tree without a good head of foliage and a large number of leaves to perform their assimilating functions cannot fully benefit from the effects of manure.

A new series of experiments to test the efficiency of the system Lime—Phosphoric Acid—Green Dressing are now being started in a clearing of widely-spaced rubber, planted from seed at stake.

Very little has been said about the Nitrogen factor. So long as *Phytophthora Meadii* continues to produce secondary leaf-fall, it would appear that Nitrogen must be necessary to help the trees to restore their foliage and Fish Guano would appear to be a good fertiliser to use for the purpose, since it contains both Nitrogen and Phosphoric Acid in a fairly rapidly available from. Nitrolim is also a fertiliser which should be experimented with for this purpose as well as, possibly, Nitrates of various kinds if these can be applied at such a time as to avoid loss by leeching in the heavy rains.

The use of green dressings is also to be recommended, and trials are being made to ascertain whether these, in conjunction with rock phosphates, may not render the latter rapidly available. Some promising results have been obtained in America along these lines.

The best green dressing to use is probably *Tephrosia candida*, usually known as Boga Medeloa. This grows rapidly and gives a very heavy cover in the open, while, if the seed is broad-casted and lightly dug in in either March or September, it will produce a good growth even under the shade of old rubber.

Some experiments with this plant in a new clearing have shown that a very heavy cover indeed can be produced. This, after constant lopping at the end of three years, was found to yield twelve tons per acre of fresh material. This probably represents some three tons at least of sun-dried material, and, with the loppings and fallen leaves, at least five tons per acre of sundry material must have been added to the soil. This contains about 2 per cent. of nitrogen, 0·88 per cent of potash, and 0·45 per cent. of phosphoric acid, and is, therefore, equivalent to an application of about a ton an acre of ground-nut poonac.

The best way, however, in which to use this plant in a new clearing is to treat it as an annual, and at the beginning of each hot weather to cut it and dig it in with an application of lime and phosphate. In the case of old rubber, it can with advantage be left for two years before it is cut.

(To be continued.)

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

DISTRICT PLANTERS' ASSOCIATION.

Bababudin Planters' Association.

Proceedings of a Quarterly Meeting of the above Association, held on Wednesday, 17th March, 1920, at one o'clock at the Santaveri Bungalow.

PRESENT.—Messrs. A. C. W. Denne (President), W. H. F. Lincoln, C. Sylk, F. Hugonin, F. D. Meppen, H. Kerr, G. R. Oliver, S. H. Dennis, N. G. B. Kirwan, E. Dunhill, D. W. Meppen (visitor), and S. J. Wilson (Honorary Secretary.)

Notice calling the meeting was read, and the minutes of the last meeting were taken as read, and confirmed.

Before taking up the items on the agenda, the President proposed the following vote of condolence which was passed in silence all standing. "The B. P. Association wishes to put on record our regret at the demise of Mr. Edward Hall, who began his career at Santaveri in 1865. He was a member of the Original Mysore Planters' Association for many years."

The Hon: Secretary be requested to write to Mrs. Hall a letter of condolence.

RAISING COOLIES' WAGES.—The President, in bringing forward this, said:—We have to decide if we will raise the pay of coolies, or give them some other equivalent. Our labour is nearly all Mysore, and we have to pay them a wage that will attract them from their villages. Five annas does not do this, as men can easily earn 5 and 6 annas a day in their villages for the most part of the year, and about 12 annas to one rupee while harvesting crops.

We have also to contend with the Iron Mines at Kemangundy, only about 7 miles away from here, where Government pay 8 annas for men and 5 annas for women.

Native Planters also now pay round Chick, and elsewhere, I believe, Rs 8 and 9 for 15 day-men coolies. Some of my labour all last year was drawn off to native estates, where higher wages are paid than by European Planters.

Mr. Oliver spoke against raising wages, as he did not think the time for it had come yet, nor would it help in getting us more coolies. Wages, he said, were raised in 1914, and to-day we were almost worse off for coolies than in 1914.

Mr. Dennis, on the other hand, supported the President and said he had heard from a Superintendent of the Labour Department about a new district, where some coolies might possibly be secured if we could pay them 6 annas a day, and give them other attractions, such as cheaper grain.

Besides these gentlemen, there were others who spoke for and against the motion, but, as it is a matter which would affect the whole of the planting districts, the following resolution, proposed by Mr. Oliver, and seconded by Mr. Kirwan, was adopted:—"That the question of raising wages be deferred, in deference to the request of the North Mysore Planters' Association, till after their special meeting on March 22nd, but that the meeting is, at present, opposed to raising wages."

(2) ROADS.—Under this heading, Mr. Dunhill again brought up the old question of the Kulhuttypore-Save Road, and proposed the following resolution, which was seconded by Mr. Sylk:—That the Government be addressed again on this matter, and that the opening of the road be expedited.

Mr. Kerr proposed that Government be requested to open the Sakrapatna-Hospet Road. Seconded by Mr. Dennis.

(3) ACT XIII OF 1859.—There was no discussion on this subject.

(4) SANTAVERI DISPENSARY.—Read copy of letter from the Chief Secretary to Government to the Deputy Commissioner, Kadur District, and it was noted with satisfaction that Government had directed that the dispensary be tried for another year at Santaveri, under a non-Brahmin Sub-Assistant Surgeon.

(5) AMALGAMATION WITH N. M. P. A.—Mr. Oliver put forward and Mr. Wilson seconded a motion to amalgamate with the North Mysore Planters' Association on the grounds of smallness of membership, the frequent absence of some of the leading members, and above all the urgent necessity, at the present critical juncture, of a strong representation.

The matter was very thoroughly gone into, and it was considered far more beneficial if the three Mysore Associations could amalgamate and form one Mysore Planters' Association with branches for each district. In fact, more than this, if all the Coffee Associations in Southern India could possibly see their way to amalgamation and form one, say, "Coffee Growers' Association," with branches in each district, the advantages to be gained would be worth considering. However, Mr. Oliver withdrew his proposal in favour of the following, proposed by Mr. Dennis and seconded by Mr Hogonin, "That the South and North Mysore Planters' Associations be again approached with a view to the S. M. P. A. reconsidering its decision in *re*. the amalgamation of the three Mysore Associations."

(6). ELECTION OF PRESIDENT.—Mr. Dennis was elected President in the place of Mr. Denne, who will shortly be going Home, and Mr. Kirwan was elected to fill Mr. Denne's place on the General Committee of the U. P. A. S. I.

(7) CORRESPONDENCE.—The Hon. Secretary was requested to write to the Collector of Customs, Madras, regarding customs having lately been charged on coffee arriving in Mangalore, and in which on re-weighment, there was found to be in excess of weight shown in receipt by the despatching goods clerk at Birur station. And also to write to the Secretary, U. P. A. S. I., about difficulty of waggons on the broad gauge sections of the S. I. and M. & S. M. railways, and to ask him if the U. P. A. S. I. could not take the matter up with the railway authorities and help the firms in getting waggons for quick despatch of manures.

Mr. Oliver then proposed a vote of thanks to the retiring Chairman and to the Hon. Secretary, and the meeting terminated.

(Signed) SAM J. WILSON,
Honorary Secretary.

THE PELTON WHEEL.

Its Possibilities and Advantages.

By science man progresses, and is enabled to harness nature's resources. By these resources we are able to produce power, and make diabolical engines of war more barbarous than those of earlier days, or peaceful implements for the farm or factory. Thus, to-day we use water for producing power, which is cheaper than steam or oil engines, given a plentiful supply.

We hear of various electric schemes which are to use water for driving the dynamos. They will use water power, because it is cheaper than the other forms of power machinery, and there is no reason why plantations should not benefit by it too.

The ordinary water-wheel is a crude contrivance, much older than steam, in fact it is as old as the wind-mill, yet it is seen to-day. It requires a large space for it to work and plenty of water to revolve it, when, by the use of improved types, thanks to science, we can use about one-fourth

the quantity of water to drive the same machinery, and consequently with less anxiety in the dry weather.

An efficient type of the modern water-wheel is the Pelton Wheel. By installing it in place of the existing water-wheel, we can dispense with about 75% of the water that was necessary to drive the old water-wheel. Given a sufficiency of water and fall, any rubber or tea machinery can be driven, no matter how numerous they may be. It occupies very little space, in fact less than some types of oil engines, and requires no attendant.

There is a large field for these machines in South India, and engineers would do well to exploit it, and, from the point of view of the planter, it would be to his advantage to ascertain if water power could not be more cheaply employed, before investing in a steam or oil engine.

Many tons of water are running to waste annually, and, at present, it costs nothing to use it.

The initial cost of installation is high, but not much more than a steam or oil engine. It has the advantage over steam, as its running costs, provided it has been correctly installed, are negligible. For there is only the cost of lubricating oil for four bearings, and probably a new nozzle, which may be renewed yearly, and cleaning of the water tank, which will not cost much.

I have seen no advertisements of the Pelton Wheel in the *Chronicle*, and possibly there are many planters who are unaware of the existence of such machinery, or may have only a vague idea. The steam and oil engines are common sights, as railways and automobiles are propelled by such engines, but water-wheels are only seen in those regions where there is a sufficient fall of water, and it is possible the Pelton Wheel is unknown to most, hence we see so many water-wheels employed, and eventually replaced by steam or oil engines, instead of utilising the cheap power there is in water, which science has shown us how to us.

NOTES AND NEWS

The Labour Act.

Government Orders, recently issued state that "Under section 4 of the Madras Planters' Labour Act, 1903, the Governor-in-Council is pleased to authorise Mr. Thomas Arthur Kinmond, Manager of Mayfield Estate, Gudalur Taluk, and Mr. William Stanley Rowson of Glenmorgan Estate, Ootacamund Taluk to attest the execution of labour contracts."

Cable delays.

The *Times of India* recently made reference to the impossibility of the present cable system ever coping with the telegraph traffic, and emphasized the necessity of linking up the Empire by wireless. It is bound to come in the long run. In the meanwhile, those who, like ourselves, have to rely on the cable, are lucky to get their messages in eight days from London.

Statistics.

The Secretary, U. P. A. S. I., is now engaged in collecting statistics of tea and rubber estates for the year 1919. We appeal to all planters to lighten his task by filling in the quite simple form promptly and accurately, and returning it to Coimbatore as early as possible.

Tea and Exchange.

Our correspondent of a couple of weeks ago may perhaps take heart again. The price of tea is improving, and with exchange at 2s. 4d. odd, the position is infinitely brighter. Unfortunately we see no reason to dispute the

persistent rumours that exchange will rise again, and rapidly. We are asked if there is a brighter side, and all we can say is that, if Germany or America controlled the output of tea as the British Empire does, the price would be controlled. The only hope, therefore, is contained in the telegram which our correspondent quoted. A combination of the Indian Tea Association, the Ceylon Association and the South Indian Association, in London, could, if it existed, work wonders.

Rubber.

The same thing applies to rubber. We are the largest producers. America is the biggest buyer. Instead of that being a cause for gratification, it is the reason why the price is kept down. We have failed to call the bluff that America can get all she wants out of wild rubber and Guayule. We seem to be afraid she will cease buying for a sufficient time to land us with unmanageable stocks, when the fact is that, if we cared, we could make America dance to whatever tune we liked to play.

The Labour Department.

The Staff of the Labour Department has been strengthened this week by the addition of Mr. J. N. A. Eaton, who has arrived at Coimbatore from home. Mr. Eaton is a brother of Mr. S. P. Eaton, the well-known Rubber planter of Pullangode, and served all through the war with the Royal Irish Regiment.

The Exodus.

An extraordinary, not to say alarming exodus, has taken place in planting circles within the last few days. The three active members of the Executive Committee, U. P. A. S. I., have all tendered their resignations, and by the time these lines appear in print will have left for home. Automatically, the members-in-waiting become active members, and the Executive Committee now consists of Messrs. J. S. Nicolls, R. Lescher, and C. R. T. Congreve, representing Tea, Rubber and Coffee, respectively. We hope to announce next week the names of the gentlemen who will fill the offices of members-in-waiting.

The Rubber-Growers' Association.

The recent changes in the *personnel* of the Executive Committee of the U. P. A. S. I., include the resignation of Mr. J. Mackie, Member for Rubber, whose place will be taken by Mr. Lescher, previously member-in-waiting. Mr. Lescher thus becomes *ipso facto* Chairman of the South Indian Branch of the Rubber Growers' Association.

Mr. C. E. Abbott.

Another well-known figure in the Planting World who left Colombo last week for England is Mr. C. E. Abbott, late of Nellimunda, Wynaad. The good wishes of all S. Indian planters attend him on his well-earned leave.

Tea in Bengal.

According to the Agricultural Statistics of Bengal for 1918-1919, the area under tea in that province is estimated to be 169,100 acres made up as follows:—Jalpaiguri 108,200, Darjeeling 55,400, Chittagong 5,400, and the Chittagong Hill Tracts 100 acres.

Nitrate of Ammonia.

Customs Circular No. II. of 1920 states that, in exercise of the power conferred by section 23 of the Sea Customs Act, 1878 (VIII of 1878), the Governor-General in Council is pleased to exempt Nitrate of Ammonia from import duty leviable thereon under item No. 83 of Schedule II, Part IV, of the Indian Tariff Act, 1894 (VIII of 1894), as subsequently amended.

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of the First Meeting of the General Committee, elected for the current year, held at Calcutta, 19th March, 1920.

CHAIRMANSHIP OF THE ASSOCIATION.—Mr. W. M. Fraser proposed and the Hon'ble Samuel Best seconded, that Mr. A. D. Gordon be appointed Chairman of the Association for the ensuing year. The proposal was unanimously agreed to, and Mr. Gordon took the chair.

VICE-CHAIRMANSHIP.—The Hon'ble Samuel Best was unanimously elected Vice-Chairman.

SCIENTIFIC DEPARTMENT SUB-COMMITTEE.—The Scientific Department Sub-Committee was elected as follows:—The Chairman, Vice-Chairman, Mr. W. M. Fraser and Mr. J. A. C. Munro.

SELLERS SUB-COMMITTEE.—It was agreed that the Chairman, Vice-Chairman, Mr. T. C. Crawford and Mr. J. Mein Austin should constitute the Sellers Sub-Committee.

PROCEEDINGS.—The proceedings of the last Committee meeting, held on the 2nd March, were confirmed after previous approval in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION, LONDON.—Two letters, dated 12th and 19th February came up for consideration. The principal subjects dealt with in these letters were as follows:—

(*a*) *Chairmanship of the London Association.*—It was mentioned that Major Norman McLeod, owing to pressure of work, had found himself compelled to resign the Chairmanship of the London Association. Mr. S. G. Anderson, Vice-Chairman, had been elected to the Chairmanship in his place, and Mr. T. McMorran appointed Vice-Chairman for the remainder of the current year.

(*b*) *Ocean freight: Measurements.*—The London Committee stated that they had been recently approached by the Calcutta Conference with the suggestion that, in future, all tea shipments should be measured in Calcutta instead of in London. The matter had been discussed by representatives of the London Association with Sir John Ellerman, on behalf of the Conference, the idea being that, if the proposal were adopted, the Calcutta measurers should take the square of the chest and the bulge, the measurement being the mean rate between the two. The Calcutta Conference's reason for putting forward the suggestion was that measurement in Calcutta would save time, space and labour. In asking the General Committee's views on the proposal, the London Committee added that they themselves were not inclined to view it with favour, as the general experience of the past was that Calcutta measurements were in excess of those taken in London.

The Committee discussed the proposed arrangement at some length. They were inclined to agree that the objections to the proposal which were put forward by the London Association required consideration; but it did not seem to them that there was any reason why these should not be satisfactorily overcome. For instance, a rebate on Calcutta measurements might be granted by the Conference, this rebate being calculated with reference to the actual variations found to exist in a series of, say, 50 representative cargoes. The Committee were of opinion that the variation would be found to average in the region of 5%, but it was possible that some arrangement would have to be made to distinguish between wooden chests and patent chests, the variation being almost entirely in the latter. It was decided to inform the London Association to this effect, and to say that, if some arrangement for a rebate on the lines indicated were agreed to, the Committee would take no exception to the adoption of the proposal.

(c) *Restriction of exports*.—It was stated in the proceedings of 20th January last that the General Committee were arranging to address the Government of India, Department of Commerce and Industry, in support of the representations being made at home by the London Association with a view to the removal of all restrictions on the export of tea from the United Kingdom. In their letter of 19th February, the London Committee mentioned that the Chairman and Vice-Chairman of the Association had had an interview at the India Office on the subject with Mr. L. J. Kershaw, C. S. I., who had promised that the India Office would do what it could to get the whole of the export restrictions removed.

THE FOOD CONTROLLER: EXTRA COST OF PRODUCTION IN 1918.—This matter was last referred to in the proceedings of 3rd February. Since then the Tea Commissioner for India had issued a circular to all concerns, etc., which shipped tea on account of the Food Controller, explaining that the extra ¼*d.* per lb., on account of increased cost of production in 1918 would be paid to locally-controlled companies. The Food Controller's instructions were, it was stated, that all payments would be made in London, nothing being payable in India. The General Committee took up with the Tea Commissioner the question of this condition, and they pointed out that, under the contract, locally-controlled concerns were entitled to payment of the extra farthing in rupees in India at the rate of exchange of 1/4d. to the rupee. The Indian figures had been converted at this rate in arriving at the price for the contract, and it was manifestly unfair that Indian concerns should be expected to take the risk of exchange.

It was noted from an endorsement, dated 11th March, received from the Tea Commissioner, that the latter had passed on the papers to the Food Controller, and that he had also wired him on the question. The Committee now discussed the point further, and they decided to wire to the Indian Tea Association (London) in the following terms:—

Food Controller insists payment in London we claim payment in rupees calculated at one and four pence and paid at current rate of exchange. Our contention is that this is obvious interpretation of contract besides being equitable. Kennedy has cabled Food Controller. Please take up matter with him on our behalf pressing our view strongly.

In connection with this subject, a letter dated 15th March had been received from the Secretary, Darjeeling Planters' Association, forwarding copy of a letter received by him from a member enquiring whether in view of the Tea Commissioner's circular referred to above the question of the payment of the extra ¼*d.* in India had been finally settled. The Committee directed that the position should be explained to the Darjeeling Association.

THE REFORMS: BENGAL LEGISLATIVE COUNCIL.—With a d. o. letter, dated 15th March, the Reforms Secretary to the Government of Bengal, forwarded a suggested definition of the qualifications of electors to the seat proposed for allotment for the representation of the Indian Tea Association in the new Provincial Council. The views of the Association were invited as to the suitability of the proposed wording, which ran as follows:—

The election shall be made by the votes of persons qualified to vote who—

(*a*) are permanent members of the Indian Tea Association

or,

(*b*) are entitled to exercise the rights and privileges of permanent membership of the said Association on behalf, and in the name, of any firm or Joint Stock Company, or other Corporation, and who have a place of residence in India.

The Committee decided that this definition was quite satisfactory, and the Secretary was directed to reply accordingly.

SUPPLIES OF RICE TO TEA GARDENS IN DARJEELING.—The Director of Civil Supplies had enquired recently whether any Burma rice would be needed in April by gardens in the Darjeeling district: a reply to this enquiry had to be given very urgently, in order to enable the Director to make the necessary arrangements. In view of the short time available, the Secretary had submitted the enquiry to all agency houses with interests in Darjeeling. It was ascertained that the amount of Burma rice required by Darjeeling gardens was very limited, and the particulars of such requirements as were intimated had been passed on to the Director for action.

DIVERSION OF STEAMERS FROM LONDON TO OUTPORTS IN THE UNITED KINGDOM.—The following telegram, dated 4th March, from the Ceylon Chamber of Commerce, had been received:—

> Following cable received from Ceylon Association in London, *begins* following steamers have been arbitrarily diverted to outports *Clan Robertson City of Canton* to Glasgow *Clan Kennedy Clan Macbean* to Plymouth *Maihar Maimyo* to Leith *Clan Buchanan Glenapp* to Greenock. Special deviation clause on Anchor Brocklebank bill lading which is not on other companies bill lading has this been mutually agreed under clause eight tea agreement telegraph please, *ends*.

After considering the matter in circulation the Committee had despatched the following reply to the Ceylon Chamber:—

> Yours 4th deviation clause on Anchor Brocklebank bill lading has not been mutually arranged under agreement but appears only to amplify usual printed clauses without conferring new powers.

The question was now further discussed. It was understood that it had already come before the London Association, but meantime, so far as the information of the Committee went, it was not very clear, particularly with reference to the question of whether the additional expense involved in despatching the tea to London was being borne by the steamer company, or by the tea shipper. It was decided to wire on this point to the London Association as follows:—

> Ceylon Chamber advise certain steamers diverted to Glasgow Plymouth Leith and Greenock cable full particulars is any additional expense involved.

TEA CHESTS BOUND WITH CANE STRAPS.—With a letter dated 8th March, the Traffic Manager of the Eastern Bengal Railway forwarded copies of certain correspondence which had passed in connection with the above subject. It appeared that the question had been raised as to whether the Railway were entitled to insist on risk note 'A' being executed by the senders of tea chests bound with cane straps instead of with iron hoops; the Railway contended that chests so bound were not properly packed, while the garden concerned pointed out in reply that formerly all chests were bound with cane straps, and that during the past two years this practice had been reverted to in many cases without exception being taken by the Railway. The views of the Committee were invited by the Traffic Manager on the point.

The Committee discussed the question. They were certainly not prepared to accept the position as stated by the Railway, as it could not justifiably be argued that, from the point of view of good packing, cane straps were inferior to iron bands. A reply to this effect was to be sent to the Railway, and attention was also to be drawn to the fact that, until the introduction of iron hoops, it was customary to bind all chests with cane straps.

MARKET REPORTS.

Coffee.

Our coffee cable shows that, for three weeks now, the price of "A" Coffee has remained at 185s. per cwt., and we are told in the successive cables that the market is firm and steady. Unfortunately cable delays, added to the varying dates on which the cable is despatched, do not make the information quite as useful as it might otherwise be. Thus, receiving the quotation as we used to do on a Thursday, or even Friday sometimes, permitted us to include it just as we were going to press, whereas the delays and changes noted above have, led to such a position as that of this week, where we received the cable dated 1st April on Monday 5th April, too late for our last issue, so that it is now, by the time of publication, 10 days old.

However, this does not prevent a study of the market at home during February-March, a period of more than passing interest. The sales of Nairobi new crop P. B. at 202s., to which we alluded last week, have not to our knowledge been repeated although prices generally have been fully maintained. The quantity of East Indian new crop coming forward was still very small, and this shortage, added to a scarcity of good quality Costa Ricans, is being keenly felt by the home trade. It is a remarkable fact that prices round about 190s. are being paid for poor quality coffees, when there is still available a quantity of old crop of superior quality at less money. We may safely assume from this that the market is eager for new crop parcels, and, when these come forward, they will no doubt be in great demand, especially for the fine coffees. That the statistical position is very strong, will be seen from the following figures, for which we are indebted to Messrs. T. H. Allan & Co.:—

Coffee.

MONTHLY STATISTICS TO 29TH FEBRUARY.

	1920. Tons.	1919. Tons.	1918. Tons.
EAST INDIA—			
Landed	441	140	54
Delivered	451	74	606
Stock	1,133	208	1,059
ALL AFRICA—			
Landed	796	231	187
Delivered	402	264	169
Stock	1,411	516	558
COFFEE OF ALL KINDS—			
Stock in U. K.	19,500	18,500	33,000
Total European Imports ...	47,235	28,175	29,415
,, ,, Deliveries ...	58,650	23,290	34,470
,, ,, Stock ...	115,590	35,060	154,235
World's Visible Supply ...	507,180	680,770	738,115

Rubber.

We have yet to read a home paper, entitled to give an authoritative opinion, which is not cheerily optimistic with regard to the future of this product. They one and all produce a plethora of statistics relating to the number of cars which the United States of America, and indeed the United Kingdom, will place on the road in 1920. Similarly, they unitedly avoid any prognostication of the effect of all this industry on prices. They lead one to believe that the world is starving for Rubber, and, if there is anything in the laws of supply and demand, one would think rubber was in for a period of prosperity reminiscent of the palmy days before the war.

The Share Market, too, is indicative of a great belief in the future of the industry by the investing public, but the price remains comparatively low, and one can only assume that Companies at home are satisfied with it. Presumably a market equivalent to one rupee in India and Ceylon, or one dollar in the Straits, is sufficient for those concerns which have reached the all-in-bearing stage, and certainly from such a price a handsome return in dividends is assured where the yield per acre is 400 lbs, or more. There is no gainsaying the fact, however, that the young producers and the under-average yielding concerns are hard hit by the loss on exchange in India and Ceylon. That handy little publication of Rickinson & Son's, known as "The World's Rubber Position," draws attention to a factor not usually considered by planters. It is the uncertainly of labour in the great manufacturing centres. There is no doubt about the increased demand for rubber, and, since we are optimists ourselves, we may as well say we agree that supplies will scarcely keep pace with it, but, if Labour at home is going to control the rate at which increased production may take place, it may well be that this factor will control the situation. Thus, our mentor says: on the basis of an actual world consumption of 320,000 tons of rubber in 1919 the percentage of increase would work out:—

On 1919.	At 5 per cent. Increase.	At 15 per cent. Increase.	At 30 per cent. Increase.	At 40 per cent. Increase.
Gives for	Tons.	Tons.	Tons.	Tons.
1920 ...	336,000 ...	368,000 ...	416,000 ..	448,000
1921 ...	352,800 ...	423,200 ...	540,800 ...	627,200
1922 ...	370,440 ...	485,680 ...	703,040 ...	882,080
1923 ...	388,962 ...	559,682 ...	913,952 ...	1,234,912
1924 ...	408,410 ...	643,634 ...	1,188,137 ...	1,728,876

Commenting on this, *Tropical Life* says: "As the world has been, comparatively speaking, starved for rubber, even a 40 per cent. increase in 1920 is not out of the way, but, anything in the way of restriction of output, or a prolonged strike in the U. K. or U. S. A. would render such a demand impossible."

We must, of course admit that the exchange position is for the moment the dominating factor, and the *India Rubber Journal* is frankly pessimistic, as will be seen from the following extracts:—

February 26th, 1920.

Our market is not too good—we are confronted on the one hand by a buoyant, speculative interest, and on the other by our chief consumer, the United States, in a very uncertain, in fact, precarious condition,

America has an industrial output *per capita* much above our own, concurrent with a very high price of all commodities—they have over 400 millions of gold, where formerly 60 millions was sufficient to support their financial edifice. Their exchange rates alsolutely kill their export trade. A huge flow of industrial commodities to America is the only possible way of rectifying the exchange rates or helping to pay interest on European indebtedness. What will the upshot be? Just a crash in commodity values in America.

Rubber can hardly expect to escape this fall in value, notwithstanding that the internal development of America largely supports and absorbs its own manufactured rubber product.

March 4th, 1920.

The trend of prices this week has been downward.

We have had an uncertain position to deal with; exchange rates have been very unsteady, and New York has marked prices down, making business most difficult.

The hopeful speculative feature has been rather damped by the dealers, who, in the absence of any regular business, have turned bears, being most cautious, nevertheless, and generally left the market with rather buyers at each day's decline.

Commodity prices tend to rise in the country, but tend to fall in America, and this works against us in exchange rates; but exchange rates have this week moved in our favour, making a most complex situation.

The latest information we have regarding stock is that, on the 11th March, it remained unchanged at 20,600 tons, imports and deliveries again being practically equal.

Tea.

After a period of some depression, a better tone has prevailed in this market, and most kinds have been selling at higher prices, although quality has been anything but good. Teas of good appearance or liquor have been distinctly dearer. As late as March 13th, the *Produce Markets Review* says there was again a distinctly better tone for all grades. Common and medium sorts were quoted ½d. to ¾d. dearer, and tippy kinds and Darjeelings were fully firm. The auctions of Ceylon tea were considerably smaller, and, with a good demand and not enough tea to go round, a strong market resulted; prices were firm to dearer particularly for the finer kinds.

OFFICIAL STATISTICS OF THE TEA TRADE OF THE UNITED KINGDOM.

One Month ended February 29.

	1913	1919	1920
Imports—	lbs.	lbs.	lbs.
India	9,624,848	19,036,662	15,231,679
Ceylon	7,187,119	16,179,711	7,036,970
China	359,306	2,507,288	1,532,472
Java, Sumatra & N'therland ...	3,647,848	79	1,131,869
Other countries	104,263	3,313	600,413
Total imports	20,923,384	37,727,053	25,533,403
Exports	4,151,575	1,291,339	4,034,492
Stock on February 29 ...	129,395,000	147,042,000	223,192,000

	Two Months ended February 29.		
	1913	1919	1920
Imports—	lbs.	lbs.	lbs.
India ...	26,296,151	35,287,089	46,200,820
Ceylon ...	15,526,096	24,428,669	15,837,082
China ...	1,063,931	2,769,790	5,396,531
Java, Sumatra & N'therland ...	6,978,967	197	5,921,635
Other countries ...	143,057	52,154	775,789
Total imports ...	50,008,202	62,537,899	74,131,857
Exports ...	8,999,788	1,405,196	7,083,201
Stock on February 29 ...	...	...	...

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

The Breach of Contract Bill.

Dear Mr. Editor,—The last para of your Editorial commentary nearly made me laugh. It would have, if I had not thought it wicked to laugh at such grand and noble sentiments. "Noblesse oblige." In case "Celui qui ne dit rien consent," I have not given up Act I of 1903, and I feel certain that the Nilgiri-Wynaad and Wynaad Associations will continue to protest against its repeal.

Hoping I have not lost my self-respect.

Yours faithfully,

J. S. NICOLLS.

The Composition of the Coffee Berry.

Dear Sir,—With changing individuality editorial memory is apt to be short. If you will be good enough to refer to your files and look up Volume VIII, page 455, you will see that the article which you reproduced in your issue of 13th March, page 182, under the name of Mr. C. C. Moncton is taken word for word from an original paper of my own.

2. I feel sure that my friend, Mr. Moncton, claimed no originality for the matter in this article, and, I think it probable that, in the process of copying from one paper to another till, like other sins, it has come home to roost in its original journal, my name as its author has been omitted, and I should be much obliged if you would be good enough to correct this omission.

Yours faithfully,

RUDOLPH D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

[Note by ED., P. C.—We *are* getting it in the neck this week. We apologise to Mr. Anstead for not having remembered his article, written in collaboration with Mr. C. K. Pittock, in our issue referred to, and hope this catches the eye of Mr. Moncton so that he may have the opportunity of adding his apologies to ours. Perhaps the TROPICAL AGRICULTURIST will also note the source of the article.

To Mr. Nicolls we extend a hearty welcome to our correspondence pages. The "noble sentiments," which is he is pleased to call our little effort of two weeks ago, were inspired by our having only that week read over again the speech of H. E. the Governor of Madras, Lord Pentland, in 1918, as reported in the Book of Proceedings for that year, and Mr. Nicolls' own magnificent peroration, (loc. cit. page 138) where he says, speaking of the re-organisation of the U. P. A. S I., "I would impress on you, gentlemen, before we part, to sink individual differences, and loyally to support and abide by the decision of the majority, etc.....with the whole-hearted co-operation of planters....." *Verb. sap.*]

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 9TH APRIL, 1920.

178*s*./- *per cwt. Market quiet.*

FREEZING MIXTURES.

The following are some useful mixtures. If the mixtures are previously cooled the effect will be greater.

The thinnest possible vessels and a tolerably large quantity of materials should be employed.

	Mixtures..	Parts.	Thermometer Sinks.	Degree of Cold.
a	Nitrate of Ammonia...	1	from + 50° to 4° ...	46°
	Water ...	1		
b	Sulphate of Soda ...	3	from + 50° to —3° ...	53°
	Diluted Nitric acid ...	2		
c	Sulphate of Soda ...	6	from + 50° to — 10° ...	60°
	Muriate of Ammonia.	4		
	Nitrate of Potash ..	2		
	Diluted Nitric acid ...	4		
d	Sulphate of Soda ...	6	from + 50° to — 14° ...	64°
	Nitrate of Ammonia...	5		
	Diluted Nitric acid ...	4		
e	Sulphate of Soda ...	8	from + 50° to 0° ...	50°
	Muriatic acid ...	5		

I, COORG, 13th April. J. M.

SOUTH INDIAN PLANTERS' BENEVOLENT FUND.

The official year of the U. P. A. S. I. closed on the 31st March, and accounts for the year ending at that date have to be made out for the above Fund, these cannot be published till they have been passed by the auditors, but a list of the subscriptions received during the year, campared with the amount received during the same period 1918-19, is of interest.

Name of Association.	Approximate number of Planters in District.	1919-1920.		1918-1919.	
		Number who subscribed.	Amount.	Number who subscribed.	Amount.
			Rs.		Rs.
Anamalais ...	31	28	380	16	160
Bababudins ...	16	8	150	...	40*
Central Travancore ...	32	20	400	8	80
Coorg ...	63	3	50	11	138
Kanan Devans ...	64	4	160	17	243
Mundakayam ...	30	6	530	...	...
Nilgiris ...	37	20	1,280	3	65
Nilgiri-Wynaad ...	19	2	95	Non-existent.	
North Mysore ...	21	10	280	8	100
Shevaroys ...	30	1	10	15	200
South Mysore ...	27	24	570	14	160
South Travancore ...	38	3	450	...	...
West Coast ...	37	15	170	...	...
Wynaad ...	37	2	65	1	75
Labour Department ...	7	4	250	...	...
Others ...	...	3	600	...	...
	473	153	5,440	93	1,261

* This was a subscription from the Association, and not individual members.

A little less than one planter in three subscribed to the fund, but the average subscription of those who did subscribe, amounted to over Rs. 35 per head. Many large donations were received in the year just closed, and 22 names were, during the period, added to the list of Patrons. Many planters paid up the arrears into which their subscriptions had been allowed to fall during the time of the war, so that the amount subscribed individually is higher than is likely to be the case again in future years. The Fund still lacks that general support, which is the only possible way of placing it on a satisfactory footing.

H. WADDINGTON,
Secretary.

SUBSCRIPTIONS RECEIVED SINCE 1ST APRIL Rs. 65.

SCIENTIFIC DEPARTMENT, U. P. A. S. I.

RUBBER MANURING.

(*Continued.*)

We have now got some very interesting data to show in one particular instance the effect upon the soil of a definite simple system of manuring. The soil in question is a stony laterite, and it was planted with rubber in 1911. Samples were taken and analysed in 1915, and from 1916 onwards the soil was limed and put under a green dressing of *Crotalaria striata*, which gave a heavy cover, and was forked in each year. In 1919, Fish Guano was applied, as by that time, the shade of the trees had become too dense to allow *Crotalaria* to grow.

A marked change in the appearance of the soil had been produced, it had darkened very considerably, and the trees had made good growth, and were giving a fair yield. Moreover, it was most noticeable that they were free from attacks of *Phytophthora* and secondary leaf-fall. This was most marked in 1919. While neighbouring estates, only a few miles away were badly attacked and hardly a sound fruit could be found, on this estate the trees had hardly lost any foliage and were crowded with sound fruit, while the ground was covered with it, and in October it was germinating and producing healthy seedlings all over the place. This may or may not have been due to the manurial treatment, but it is worthy of note as it was very striking.

It was thought that it would be of interest to compare the analysis of samples of the soil after this treatment with those made in 1915, and it was hoped that such analysis might give valuable aid as to a future manurial policy. Consequently, samples were taken from the same places in which samples had been taken in 1915, and these have been analysed by the Government Agricultural Chemist.

The data are as follows. Thinning out has been done, which accounts for the different number of trees in tapping each year. Now all the trees are in bearing.

BLOCK NO. 1. Area 150 acres. Planted 1911. 170 trees per acre.

	1916.	1917.	1918.	1919.
Trees tapped per acre ...	81	107	99	83
Crop per acre in lbs ...	16	119	258	255
Average per tree in lbs ...	0·26	1·11	2·59	3·06
Total crop in lbs. ...	2,456	17,918	38,649	38,300

MANURIAL SYSTEM.

Lime per acre—				
North half ...	½ ton.			
South half ...	...	½ ton.		
Total area ...	...	...	½ ton.	
Green dressing—				
Crotalaria ...	Whole area.	Whole area.	...	
Fish Guano per acre—				
North half ...	...	...	...	½ ton.

The soil analysis referred to were as follows:—

	1915.	1919.
MECHANICAL ANALYSIS.		
Organic matter.	9·84	11·24
Coarse sand.	32·47	23·60
Fine sand.	12·67	11·63
Silt.	10·63	7·92
Fine silt.	18·46	20·18
Clay.		25·36

	1915.	1919.
CHEMICAL ANALYSIS.		
Organic matter	8·06	11·24
Insoluble mineral matter... ...	60·26	60·51
Iron and Aluminia	30·27	29·17
Lime	0·17	0·038
Magnesia	0·26	0·069
Total phosphoric acid	0·08	0·056
Total potash	0·06	0·109
Sulphuric acid	0·10	0·082
Nitrogen	0·13	0·1369
Available phosphoric acid... ...	0·0025	0 001
Available potash	0 008	0 0019

We see from these analysis that, there has been a considerable weathering and breaking down of the coarser particles of the soil. In 1915, we had a soil in which coarse sand preponderated, and such soils possess several disadvantages. As a result of the treatment, cultivation, the burial of organic matter and the application of lime, we have got a soil of quite a different mechanical character, one in which the fine silt and clay preponderate, while, at the same time, there is a fair quantity of coarse particles.

When we turn to the chemical analysis, we note that the treatment has maintained and increased the organic matter and nitrogen content, despite what the trees have used. The lime content has been decreased, which perhaps is surprising, but the doses applied were small, and it only shows that lime is badly needed, and that we do not as a rule apply enough. It has been used up in breaking down insoluble iron and aluminium salts, and it is to be noted that the total of these has been reduced by one per cent. It has no doubt reduced acidity and helped to rapidly decompose the large quantities of organic matter added as green dressing, and aided the soil bacteria in their functions of converting this into available plant food. In all these processes, it would be used up and lost, being converted into soluble bicarbonate and washed out in the drainage water. It is quite clear that we should continue to add more lime, and, that any fear of over-liming such soils need not be entertained.

Phosphoric acid is being used up rapidly, both total and available, and phosphatic fertilisers are needed. This is a marked feature of nearly all soils in rubber districts so far examined.

The total potash has increased, but the available potash has decreased, which indicates that the rubber tree uses and needs this essential plant food, and it might be advisable to apply Muriate or Sulphate of Potash occasionally now that these fertilisers are again available.

BLOCK NO. II. Area 65 acres. Planted 1913. 170 trees per acre.

	1916.	1917.	1918.	1919.
Trees tapped per acre			146	125
Crop per acre in lbs.			63	254
Average per tree in lbs.			0·43	2·04
Total crop in lbs.			4,100	16,536
MANURIAL TREATMENT.				
Lime per acre			½ ton	
Green dressing.				
Crotalaria ...	Whole area.	Whole area.		

The soil analysis of this block are :—

	1915.	1919.
MECHANICAL ANALYSIS.		
Organic matter	11·86	7·68
Coarse sand	22 7	42·86
Fine sand	14·92	14·23
Silt	21·35	6·69
Fine silt	13·52	17·49
Clay		10·97
CHEMICAL ANALYSIS.		
Organic matter	11·16	7·61
Insoluble mineral matter ...	58·67	57·72
Iron and Aluminia	28·86	34·43
Lime	0·32	0·045
Nitrogen	0·17	0·1537
Available phosphoric acid ...	0 0015	0 0017
Available potash	0·012	0·0038
Magnesia	0 27	0 100
Total phosphoric acid	0 09	0 106
Total potash	0·11	0·118
Sulphuric acid	0·10	0·082

This block offers a contrast to the last. The treatment was not so complete. Lime was only applied once, and the *Crotalaria* in 1917 grew very poorly for some reason though there was a good growth on No. I that year. There has been an increase of the fine particles of the soil, but the coarse ones still preponderate. The mechanical analysis would lead one to suppose that the soil had been subjected to erosion, but this is not the case. Organic matter and nitrogen have diminished, and the analysis show that insufficient green dressing and lime have been applied. As a whole, the results obtained on this area indicate that the treatment of No. I was correct as far as it went.

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

DISTRICT PLANTERS' ASSOCIATION.

South Mysore Planters' Association.

Proceedings of the 56th Annual General Meeting, held at the Saklaspur Travellers' Bungalow, on March 25th, 19-0.

PRESENT.—Messrs. C. Lake (President), H. F. Anderson, T. Anderson, Major C. C. Conchman, Col. W. L. Crawford, D.S.O., Messrs. F. M. Hamilton, P. Hunt, St. John Hunt, C. J. Hayward, (Honorary Secretary).

Visitor.—Mr. K. T. Achuta Rao.

The Honorary Secretary read the notice convening the meeting. The minutes of the last meeting were confirmed.

PRESIDENT'S ADDRESS.

GENTLEMEN,—I do not propose to speak of the work done by this Association during the year, as your Honorary Secretary has gone very fully into this in his report.

The season we have just concluded has been a good one on the whole for coffee. Though crops, generally speaking, have not been large, most of us have realised our estimates. A normal monsoon throughout South India last year has done much to ease the food situation, although it will probably require several more good monsoons for things to become anything like normal again.

So far as coffee is concerned, prospects for the coming year are excellent, and it seems probable, from what one hears, that the coming crop will almost be a record one. It is most encouraging to feel that coffee in Mysore is as full of vigour as it ever was, and shows no signs of that decadence of which we heard so much some years ago.

A new stimulus, if such were needed, has been given to the Industry by the appearance of two very promising Hybrids which, if all that is claimed for them is true, will do much to make the planters' life an easier and more profitable one.

While prices continue to be good, the recent big rise in exchange has done much to nullify the benefit we might have obtained from them, and the instability of exchange is, at the present moment, the ruling factor in our local markets.

From what we read of the statistical position of coffee we may, I think, look forward with confidence to a continuance of high prices for many years to come.

We failed this year to make a further contract with the Greeks. Indeed they are frank enough to admit that they do not like our coffee, and we can only infer that they don't know a good thing when they see it.

Times have changed for us as for others all over the world, as a result of the war. Prices of nearly everything we use on our estates have gone up, and we are beset with such difficulties as increased shortage of labour, high prices of food grains and scarcity of carts to carry our produce to the coast.

We, however, in South Mysore should be as well, if not better, able to overcome these difficulties than most other Planting Districts. We have the railway within easy distance of us, more than sufficient grain to feed all our coolies is grown round our estates and bazaars where they can obtain anything else they require are held almost every day in the week in some part of the District. I doubt if there are any other Planting Districts in South India which can hold out such attractions to labour.

It has been suggested by one Mysore Association that the time has come to raise the rates of wages in order to attract more labour, but I do not believe by doing so we shall get any more coolies, from South Canara at any rate. In my opinion we are already using practically all the available labour from this District, and if we raise the rates we shall be no better

off than we were before. We must remember that epidemics during the last two years have unfortunately carried off thousands of our S. Canara coolies, and that, while the Fiu was no respecter of caste or creed, small-pox and cholera very largely confined themselves to the classes from which we draw our labour.

I believe our remedy lies rather in making our estates more attractive to our coolies by letting them have grain cheap, by giving them good houses and good attendance during sickness.

To increase our supply of labour we must go further afield and find new areas from which too recruit, and too much stress cannot be laid upon the importance of this branch of the work of the Labour Department.

With regard to the scarcity of carts this year, to transport our coffee to the Coast, and the ever-increasing rates of hire we have been obliged to pay, I think the best solution of this difficulty lies in establishing our own Curing Works, either at Hassan or at Chickmagalur if the railway is to come there. This subject is on your agenda to-day, and I hope you will give it your careful consideration.

We should also approach the Mysore Government, and ask them to strengthen the culverts and bridges on our roads leading to the rail-head, to allow of the use of motor lorries.

The shortage to transport is likely to be more acute next year, when crops will be larger, and we shall probably have to make use of the railway to a great extent to move our coffee. It will be necessary, therefore, to make previous arrangements with the railway authorities to have sufficient wagons allotted for this purpose. It seems to me that this is the only way in which we can find relief from the present intolerable position.

The response that has been made to the recent calls for support to the Planters' Benevolent Fund by your Honorary Secretary is very reassuring, and goes to show that it has not been unwillingness, but merely forgetfulness on our part which has caused subscriptions to dwindle of recent years.

We are still much in the dark as to the policy to be pursued by the Mysore Government with regard to railways to the West Coast, and we can only express the hope that, in making their final decision between Bhatkal and the port of Mangalore, they will give due weight to the voice of public opinion which has been so frequently raised in favour of the latter place, both from an economic and geographical point of view.

I have detained you long enough, gentlemen, and, in concluding I wish, to tender my thanks to Mr. Hayward for the very capable way in which he has carried out all the work of the Association during the year, and to you, gentlemen, for the honour you have done me in again appointing me as your President for the past year.

I now beg to place my resignation in your hands.

(Signed) C. LAKE.

HONORARY SECRETARY'S REPORT.

Gentlemen,—I have the honour to submit my report for the year ending 31st March, 1920.

At the close of last year the Association represented 7,685 acres. Since then the U. P. A. has been reorganised and the affiliated Associations had to follow suit. 972 acres were withdrawn and 1,670 added to the Association leaving the present subscribing acreage at 8,383.

I have the pleasure of welcoming five new members with an acreage of 824 from the Biligirirangans who have joined during the present year. They are unfortunately residing some distance from our centre, but I hope we shall sometimes have the pleasure of seeing them at our Meetings. They have formed a local Committee with an Honorary Secretary for the purpose of pushing local matters, and representing matters to the S. M. P. A. that require attention.

SUBSCRIPTIONS.—The amount payable was Rs. 1-2 0 per acre, one subscription remains unpaid.

PLANTERS' BENEVOLENT FUND.—I wrote to the non-subscribing members asking them to join up, and I take this opportunity of thanking them for their hearty response. Rs 270 have been paid to the Fund from 21 members.

Members subscribing through S. M. P. A. last year		...	15
Withdrawals for various reasons ...	... 3		
Subscribing member on leave ...	... 1	...	4
			11
New subscribers through S. M. P. A. or direct to U. P. A.		...	10
			21

ACCOUNTS.—These are laid on the table for inspection and audit.

INCORPORATION.—I have nothing to report on this, but I expect the coming year will see it completed.

COFFEE STATISTICS.—My circular was sent out to members before I knew the U. P. A. was moving in the matter. I only received nine replies out of twenty-nine circulars sent out. I trust the U. P. A. was more successful. These statistics will no doubt be called for annually in future.

RAILWAY OUT-AGENCY AT SAKLASPUR.—Three members attended a meeting called by the Amildar of Saklaspur to further this proposal, and I hope shortly it will be working.

HASSAN EUROPEAN CEMETERY.—I received information that the Hassan Municipal Council had proposed this should be closed. I at once wrote a protest to the Rev. Slater and sent a copy to the British Resident of Mysore.

The matter is still unsettled. I consider common courtesy alone demanded that the Council should have informed the European community of the proposal, and asked its opinion on the matter, but this they failed to do.

MRS. THOMAS HUNT'S FUND.—This was generously subscribed to, and Rs. 2,110 passed through my hands, and I had the pleasure of forwarding drafts totaling £ 216-14-0 to Mrs. Hunt in England, who, in acknowledging their receipt, wrote as follows:—

"Will you please thank all who have so generously subscribed towards a fund for helping me with my sons' educations, and assure them that I will spend the money to the best of my ability for their benefit. Some of the subscribers are almost strangers to me, others I have not met at all, and I think it particularly kind of them to help. I cannot write a separate letter of thanks to each one, as I have a very limited amount of time, having ceased to be a person of leisure," etc.

COFFEE BORER.—Dr. Leslie C. Coleman wrote asking if any member had 6 to 8 acres of young coffee (4—6 years old) on which they would be prepared to have an experiment tried.

Mr. Lake informed me he had the required acreage, and I replied to Dr. Coleman accordingly, but I have heard nothing further on the matter.

PINK-DISEASE.—I brought the attention of Dr. Coleman to the increase of this disease, and asked if he could see his way to look into the matter, and he replied, "I note your reference to the increase of pink-disease. I shall take the earliest opportunity to look into the matter."

MANURE-SHED AT HASSAN.—Col. Crawford has been inquiring into this matter, and, as it is on the day's agenda, I will leave the matter for the present.

U. P. A. ANNUAL MEETING.—A resolution in favour of the Hassan-Mangalore Railway project was again passed.

A proposal to start a Co-operative Society was put forward and favourably received. I hope this coming year will see it working.

HIS EXCELLENCY THE VICEROY'S VISIT.—Col. Crawford and Messrs. Godfrey and Lake formed the deputation to present an address of welcome in a suitable casket on behalf of the three Mysore European Planters' Associations. The Hassan-Mangalore Railway project was included in the address.

ROADS.—I have several times during the past year called the attention of the D. P. W. officials to the disgraceful condition of certain roads in the District, but I regret without beneficial results.

Col. Crawford, as our representative on the Hassan District Board, has been pressing the matter before the Board, and I hope this coming year will see improvements.

INDIAN SUCCESSION ACT.—In reply to my letter to the Chief Secretary to the Government of H. H. the Maharajah of Mysore, requesting that this Act might be amended so that security bonds should only be required to be furnished by the grantees of Letters of Administration, and not on Probate Cases as at present, I was informed that the matter is engaging the attention of Government.

CART-HIRE ON CROPS.—This matter was brought up at our last meeting, and members were asked to work together and maintain an even rate. As far as my knowledge goes this was done, but, owing to an unforeseen shortage of carts and the unscrupulous behaviour of certain Indian Planters, many members had difficulty in getting their crops away, and then only by paying excessive rates. The matter is on to-day's agenda, and requires serious consideration.

LABOUR LAWS.—The Government of India has decided to amend these. Mr. Lake formed one of a deputation to lay the views of the Planting Community before H. E. the Governor of Madras.

INDIAN DEFENCE FORCE.—The force which was inaugurated during the war ceases at the end of the month, and a new Force comes into existance, but I have nothing definite to lay before you in the way of rules and regulations.

This, gentlemen, completes my report, and I now place my resignation in your hands.

(Signed) C. J. HAYWARD,
Honorary Secretary,
S. M. P. A.

PLANTERS' WAR MEMORIAL :—The President explained how the matter stood at present, and after discussion, the following proposal was made and carried :—

"That the U. P. A. be requested to consider the advisability of starting a *Nursing* Home at Madras in preference to a *Convalescent* Home at Ootacamund."

ROADS AND COMMUNICATIONS.—Mr. H. F. Anderson addressed the meeting and proposed a resolution, which was carried.

HASSAN-MANGALORE RAILWAY.—A glance at the map will shew you that Mangalore is our one and only outlet to the sea.

If you bisect the Mysore State from West to East, you will see that the southern portion is the one that produces the revenue in the way of gold, grain and many other products. It also holds the larger population, as well as the cities of Mysore and Bangalore. In the northern portion there are hundreds of square miles that produce no revenue, and never will. The railway line to Mangalore was surveyed the best part of thirty years ago, and by a very clever engineer.

We have sent deputation after deputation to many Viceroys on the subject. One tells us : "You are not the only people who want a railway."

Another says : "You ! Its a good scheme, but you must remember that Mangalore as a port is closed for three months in the year." By the way, this was a well-known fact long before the survey was done, or even thought of. The great Tippu Sultan stopped his operations before the monsoon burst, as he knew Mangalore was not a pleasant place in the rains. He took care to retreat from there, and, having sacked the town, he brought back from Mangalore to Mysore many thousands of prisoners, and held them as captives.

Another of the mighty tells us, "there are no funds available," or, says, "you know we have got a war on." Again, we are told that our railway will have Government's serious consideration, and that it will use its best endeavours to further the project.

A former Dewan produced the Bhatkal scheme—now all Dewans like to leave a monument of some sort. If you again look at the map, you will see that Bhatkal is geographically barred so far as the southern section of Mysore is concerned. This line to Bhatkal would run through a country in which the most blood-thirsty leeches abide—labourers would have a nasty time during construction, also at other times during the rains. The hinterland of Bhatkal is a veritable no-mans-land.

The people in S. Canara are, and have always been, keen on the Hassan-Mangalore scheme. Coffee curers alone in Mangalore have sunk lakhs of rupees in the fine curing works. It is too much to expect the curers to pack up and go to such a god-forsaken place as Bhatkal, where I believe a few fishermen try to make a living by catching crabs.

It is only in slow moving India that such a long delay in constructing the Hassan-Mangalore railway would be tolerated; if it had been in America they would have polished it off in a few months, and had trains running a quarter of a century ago.

If we go to the Imperial Government, they say why don't you go and worry the Mysore Durbar? If we go to the Mysore Durbar they use that hoary-headed expression, and tells us the matter of a railway to Mangalore is *still under correspondence.*

As an Association, we cannot be accused of being greedy, but we want, and we must have a railway from Hassan to Mangalore, and not *via* Jalarpet, which is roughly 700 miles to our scheme of 110 miles.

(Signed) H. F. ANDERSON.

RESOLUTION.—"Resolved that the attention of the Mysore Durbar be drawn to the fact that, whether the Bhatkal scheme goes through or not, the Hassan-Mangalore Railway project remains an absolute necessity in order to repopulate and open up the Malnaad of Mysore."

The following two resolutions were also put to the Meeting and carried, in connection with roads and communications.

"Resolved that the Mysore Durbar be approached with a view to the strengthening of all culverts, and if necessary of bridges, on the roads in the Hassan and Kadur Districts, to enable heavy motor transport to be made use of."

"This Association wishes to again put on record its disapproval of the very bad condition of the majority of roads in the Hassan and Kadur Districts."

LUMP SUM CONTRACT FOR REPAIRING ROADS.—The meeting was in favour of accepting the modified form of agreement, but requested the Honorary Secretary to obtain further information as to the exact meaning of item *(f)*.

MANURE-SHED AT HASSAN RAILWAY STATION.—The Honorary Secretary was requested to write and ask the Railway Authorities for an approximate estimate of the cost of erecting a shed at the above station, the size of the present Goods-shed, and whether they were prepared to erect the shed if the Association supplied the funds.

COFFEE CURING WORKS.—The President addressed the meeting as follows:—

COFFEE CURING AND MANURE WORKS.

Gentlemen,—Now that we have the railway already running to Hassan, and likely in the near future to come to Chickmagalur, it seems to me that it is time we thought about starting Curing and Manure Works nearer to this, and the neighbouring Planting Districts of Mysore, than those we are making use of at present.

I do not think there can be much doubt that there is room for another curing works as, only last season, some of the curers on the Coast were refusing to take any more coffee because they were so full up, and we find that Indian planters are going in for parchment coffee more and more every year.

We have in both Hassan and Chickmagalur a climate very suitable for curing coffee, and the proximity of these places to our estates will be a great advantage to us so far as transport is concerned.

Coffee can at present be railed from Hassan to Calicut for Rs. 29-11-0 per ton, and there is also the Port of Marmagoa, to which the rail charges would be much less, and there would be no breaking bulk *on route*.

For the manufacture of manures, too, there are ample supplies of raw materials in the "Model" country, which would keep the factory in work out of the curing season.

That such a venture, if started, would meet with ample support and prove a success, I have little doubt, and the only difficulty I can see in the way is that of obtaining sufficient labour, and I do not think this will be found insurmountable.

The proposal I am now putting before you reads as follows:—

"That a Sub-Committee be appointed to inquire into the advisability of establishing Coffee Curing and Manure Works at Hassan or Chickmagalur, to be run by Planters for Planters, the raising of the necessary capital through the Planters or some outside source, and that the Committee's report be placed before the next meeting of the Association."

After discussion, the meeting decided that, in view of subsequent information received, it was not necessary at present to appoint a Committee to go into the matter, but that the Honorary Secretary be requested to take up the matter with the Mysore Government.

HASSAN EUROPEAN CEMETERY.—The Honorary Secretary was requested to write to the Chaplain of Coorg and Mysore, and inform him that the Meeting considered that the Rev. A. R. Slater had no authority to promise the Hassan Municipality Council that the new portion of the

cemetery would not be used, provided the Municipality gave a new plot of ground behind the old portion of the cemetery.

That the land behind the cemetery which the Municipality proposed giving in exchange was in no way suitable for the purpose, and, finally, that the European Community must absolutely refuse to allow the closing of the cemetery or any other proposed alteration.

CORRESPONDENCE.—The Honorary Secretary was requested to reply to the letter received from the Mysore Board of Agriculture asking the opinion of the Association as to the advisability of levying a cess of annas two per acre on coffee-lands, to popularise coffee in the Indian Continent; that this Association was of the opinion that it would be of little use and unfair unless the whole Coffee Planting Industry of South India subscribed, and, in view of the present favourable condition of the coffee market, the proposed cess was anyhow for the present, unnecessary.

ELECTION OF MEMBERS TO SERVE ON THE U. P. A. GENERAL COMMITTEE.—COL. W. L. Crawford, D. S. O. and Mr. C. J. Hayward were elected.

ACCOUNTS AND BUDGET.—Accounts were audited by Messrs. F. M. Hamilton and St. John Hunt, and found correct. It was decided to add Rs. 750 to the Reserve Fund on Deposit. The budget, as proposed, was passed. Col. Crawford said he wished to congratulate the Executive on the satisfactory state of the Association's finances.

ELECTION OF EXECUTIVE FOR THE COMING YEAR.—The following were elected:—

President	...	Col. W. L. Crawford, D. S. O.
Honorary Secretary	...	Mr. C. J. Hayward.

The meeting closed with a vote of thanks to the President and Honorary Secretary.

(Signed) C. LAKE,
President.

(Signed) C. J. HAYWARD,
Honorary Secretary.

Excerpt from the Final Report on the Ankylostome Inquiry in the Darjeeling district of India.

BY LIEUT.-COL. CLAYTON LANE, M. D., I. M. S.

(Published in the 'Indian Journal of Medical Research,' Vol. 5, No. 2)

In an address delivered to members of the Darjeeling Planters' Association, I had pointed out to them that work in other parts of the world had shown that the majority of their labour force was almost certainly infected. I added that my experience at Victoria Hospital, Darjeeling, showed that heavy infections were not infrequent in the district, and that it was certain that light infections must be quite common, and I promised them that the removal of these light infections would make a definite difference to the health and efficiency of their labour force.

At the beginning of this year, I wrote to those managers on whose gardens work had been completed for a sufficiently long period to permit of improved health being established as a result of treatment, and asked them to let me know whether or not my promise had been fulfilled. I quote below extracts from these letters, and I wish to insist in the most emphatic manner that the opinions are not mine, and that they have in no way, direct or indirect, been to the slighest extent influenced by me. They are the opinions of employers of labour who have years of knowledge of their labour force behind them, and who know exactly of what that force has been capable in the past, and what they may expect from it in the present; and who at that time viewed the future with disquietude, since there seemed every reason to suppose that a steady deterioration of the quality of labour, which had been showing itself for some years past, would continue unaltered in that future.

The first extract chosen runs as follows:—

"I am in a position to say that, with the exception of a very few cases, the coolies have undoubtedly improved considerably in health, and can do far more work than they were able to before undergoing the treatment. I should feel extremely obliged if you will order another collection from this estate, as all the coolies infected, I am given to understand, have now been through two courses of the treatment, and this, I am told, has to be done in order to ascertain if they are now entirely free of the disease."

A third manager reports thus: "I have been, of late, much struck by the general improvement in health on our estate during this rains, which I must attribute chiefly to the treatment which you carried out early in the season. The coolies generally appear to me to be stronger and healthier than hitherto."

Another manager's letter contains these passages: "I regret to say that, when sending in my Doctor Babu's report on the hookworm treatment and its effects on the coolies on this estate, I omitted to make any mention of the splendid results. I now take this opportunity of thanking you, sir, for the great interest you have shown in the coolies employed on this estate. The change in health, spirits and appearance of the labour force has been really remarkable. One must endeavour to follow out the programme as laid down by you, for by so doing, one *would add 50 per cent, if not more, to one's labour force during the rains.*"

Another manager writes thus: "Nearly 60 per cent of my coolies were treated for hookworms. Their general health has since much improved, and the daily musters have increased by roughly 5 per cent. which I consider mostly due to the treatment."

Yet another gives the following opinion: "Treatment has proved most beneficial to the health and working powers of the individuals treated. Anæmia has diminished considerably."

The manager of one of the earliest gardens on which work was done expresses the following opinion: "I have not the slightest hesitation in saying that the treatment has had a most beneficial effect, the coolies look healthier and altogether different in appearance, and on the whole, the general health of the coolies has been better since the treatment. *The*

cooly recognizes this himself and, when ill, asks for the medicine which he had given him before for hookworm. I consider this a good testimonial, as it is with the greatest difficulty one can get a cooly to take medicine."

The manager of one of the estates on which work was done fairly recently writes as follows: "Since my coolies have been treated for hookworm, I can safely say that I notice a great improvement in the general health of my coolies; in the case of the weaker and seedy coolies especially I notice a great difference; the coolies being more cheerful and able to work much better, *and they are able to do at least 50 per cent. more work since they have been treated*, their complexions are much brighter, and they are more alert in every way. They also inform me that they get hungry now, and look forward to their meals. I also observe now that there are no complaints amongst the labour about not being able to walk up hill on account of the difficulty of breathing, etc. In support of what I have said, I herewith give you below the sick and death-rate for the last three months of December, January and February :—

1916.			1917.		
		Sick.			Sick.
December	...	21	December	...	12
January	...	10	January	...	6
February	...	14	February	...	8
		Deaths.			Deaths.
December	...	2	December	...	Nil.
January	...	1	January	...	,,

"I trust you will think these figures are convincing. A better test would be to take the figures during the rains, and, if possible, I will let you have them for the months of July, August and September. I take this opportunity of saying that there is no doubt that the treatment has improved the health of my coolies at least 75 per cent."

The manager of the garden on which work was first undertaken has formed the following opinion: "The treatment for hookworm, as undergone by the coolies on this estate, has shown a marked improvement in the health of the labour force. I regret I cannot support my opinion by any figures. Those I gave might be misleading. The best testimony, I consider, is the opinion of the labour force as a whole. It is not often the cooly admits that any medical treatment does him good, but in the case of hookworms all undoubtedly admit the treatment improves their health. Two or three cases of worms who were quite unable to work and are now working steadily confirms this opinion. I should like *all my coolies to be treated again if possible.*"

The manager of that garden which showed a lower percentage of infection than did any other, sends the following note: "There is no question whatever that the health and well-being of the coolies of this garden have benefited to an almost incredible degree by the treatment for hookworm so ably carried out by you. The *results are so marked that, in my opinion, the entire district is under a deep debt of gratitude to you.* Formerly, during the rains, I had between 150 and 200 coolies off work daily, for various illnesses. This year, I can definitely state that the maximum number off work was 60, and very often it was much less.

"Apart, moreover, from the above figures, those coolies who work on the contract system *have undoubtedly done better and more work than they used to before treatment.* Formerly, our men at the outside did 10 luggies a day, one luggy being 12 feet. If they tried to do more, the work would be scamped. Now, they do at least 12 luggies a day, and splendid work into the bargain, *i. e.*, an honest one foot deep forking all over."

Another point of interest is that the last opinion quoted is, as has been stated, from that garden which showed the lowest percentage of infection. Much care had been taken for some years to prevent, in this garden, the appearance of 'heelo', as ground itch is called in these part, and I have no doubt that to this cause is attributable the low percentage of infection existing; and yet this manager is one who speaks very highly of the effects of treatment. It is surely not unfair to conclude that the careful man is also an accurate observer.

SUMMARY.

Two-thirds of the persons of the labouring classes living at the high attitude of Darjeeling are infected with hookworm.

The freeing of these carriers (lightly infested) from infection, has been followed by a marked improvement in their health and energy, thus showing that light infections have a harmful effect on their host.

The domiciled community is considerably infected with hookworm infection.

The use of latrines is essential in the prevention of infection.

N. B.—Further information regarding the Relief and Control of Hookworm Disease will be cheerfully given by the Hookworm Prevention Campaign.

Note.—Italics are ours.

GEORGE P. PAUL, M. D., C. P. H.,
Medical Officer in Charge.

NOTES AND NEWS.

Mr. R. D. Anstead.

Although Mr Anstead's leave was gazetted to commence on April 10th, he actually leaves Coimbatore only at the end of April. We may, therefore, expect one or two more articles from his pen before he finally leaves us.

Mr. Parnell.

We understand Mr. Parnell may be expected to rejoin at Coimbatore early in May, so that, in all probability, he will not be here in time to take over personally from Mr. Anstead.

The Executive Committee.

We have to correct the impression made by a paragraph in the *Madras Mail* to the effect that Mr. C. E. Abbott, who has gone home on leave, was a Member of the Executive Committee, U. P. A. S. I. This of course is not the case.

The Members in Waiting.

The previous members in waiting having now become the active members of the Executive Committee, their places have been filled as follows:—Tea, Mr. W. A. Lee, Coffee Mr. C. J. Hayward, and Rubber Mr. J. J. Murphy.

The Planting Member.

We understand the Hon'ble Mr. J. A. Richardson is also proceeding home on short leave, and may be expected to sail between the 20th and 24th of this month.

The Director of Agriculture.

Dewan Bahadur L. D. Swamikannu Pillai is gazetted Director of Agriculture *vice* Mr. R. C. Wood, who is proceeding home almost at once, on long leave. For the last two or three years, we have been fortunate in having, as Director, first Mr. G. A. D. Stuart, and secondly Mr. Wood, who both took a great interest in planting affairs. Mr. Wood's interest in the Mycological stations is well known.

Mr. Swamikannu Pillay.

We have had the pleasure of a chat with the new Director. Mr. Swamikannu Pillai is new to the Agricultural Department as at present constituted, but is not new to agriculture, as he was a Secretary to the Board of Revenue when Agriculture came under that branch of Government. He is spending some time at Coimbatore just now, familiarising himself with the College, and last Saturday, at the Annual Convocation, distributed the prizes, and made an important speech on the future of the Department.

The Mycologists.

It is to be regretted that there seems little possibility of Government being soon able to fill the two appointments already sanctioned, of general Planting Mycologist and special Rubber Mycologist. These two officers become more and more necessary to our industries every day, and without them an important link in the chain of our domestic economy remains unforged.

Administration of the Madras Presidency.

The report on the administration of the Madras Presidency for the official year, 1918-1919, has just appeared. Were it not for its tardiness the publication of the report would mark an interesting point.

We take the following from the Report:—

"In November 1917, the Food Controller in England entered into a "contract with the various tea companies for the purchase of 40 per cent "of the 1917 crop at rates based on the average prices for the three years, "1911 to 1913. In June 1918, a further contract was entered into for an "increased quantity of 66 per cent of the crop at practically the same "rates. Up to the end of the year, a total of 23·38 million lb. had been "shipped under both the contracts. At the beginning of March, the restric-

" tion in shipment of tea to the United Kingdom on private account was " removed, as freight became available, and 1·02 million lb. went forward " during the month. Shipments to other countries were small. The coffee " crop of the past season was 60 per cent larger than in the previous year, " but, at the beginning of the year, the prospect of disposing of the crop in " foreign markets did not look brigh,t as all freight to the United Kingdom " was required for goods of national importance. Early in the year, how- " ever, a welcome outlet was provided by a contract entered into by the " Greek Government for the purchase of 2,000 tons, for which freight was " provided in a Greek steamer, and the contract was followed later on by a " second for 3,500 tons. Subsequently, freight became available, and " restrictions on imports in the United Kingdom were removed in rapid " stages. The total exports thus increased from 88,216 cwt. to 155,980 " cwt. in quantity, and from Rs. 43·43 lakhs to Rs. 83·40 lakhs in value."

Exports of raw rubber improved by nearly 70 per cent., both in quantity and value. A feature of these reports, which we have yet to understand properly, is the mention of rubber works under the heading, Manufacturers. Thus, in the report before us, we read: " There were 38 concerns engaged in tile and brick making, etc.. .....nine sugar factories, etc..... ..; *and ten rubber works, all in the States of Travancore and Cochin, which gave employment to* 4,400 *hands.*"

We have lived in ignorance of this fact during seven years of rubber planting in Travancore.

Hookworm.

We call attention to the article in this issue dealing with Ankylostomiasis. It is the first of a series we hope to publish in connection with the anti-hookworm campaign in Malabar under the direction of Dr. Paul. It would be impossible to lay too much stress on the importance of Dr. Paul's mission, and we feel quite safe in stating that he will find hearty co-operation and ready help amongst all those planters with whom he must necessarily come in contact.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents).

Land Grants to Returned Soldiers.

Dear Sir,—I read with considerable interest, the letter on the subject of land grants to returned soldiers that appeared in your issue of the 3rd April, under the name of " Carnatic." You may have noticed in the papers some time ago, a question on this subject asked in Parliament by Colonel Yates to which Mr. Montagu replied that, he would be glad to hear of cases in which such grants would be applicable in India. I am sure that, if the U. P. A. S. I. took up the matter vigorously, Government would be willing to make a small grant to those who applied for it, and possibly render some financial assistance until the land came into bearing. On the basis of, say 100 acres to each applicant, I do not suppose more than 10,000 acres would be required for the scheme, and surely it would not be difficult to find that acreage in the huge forests of the Ghats?

Yours faithfully,

" COFFEE."

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 16TH APRIL, 1920.

165s./- per cwt. Market flat.

DEVELOPMENT.

A letter in our correspondence pages in this issue, to which we have ourselves tacked on a heading, is of interest, not to say importance, for more than one reason. We will leave for the moment the point raised by our correspondent relating to the Ceylon Labour Ordinance, and confine ourselves to the question he raises as to the policy of extension at this juncture, when labour troubles are thick upon us. At first glance it does indeed seem a peculiar policy to continue opening up extensive areas, not only under tea, but under other products when it is certainly partially true that estates in Southern India are suffering from a shortage of labour.

We are reminded, before we proceed any further with this fascinating subject, of an occurrence during the war, which at one time made things look very black indeed for Great Britain and her allies. We mean the death of Lord Kitchener. At the time of his death we were making slow but steady progress, and we were comforted by a feeling that anyhow we had at the War Office one in whom the utmost confidence could be placed. His sudden end came as a tremendous shock to everyone, but, as in many other cases in history, the times disclosed the man, matters quickly adjusted themselves, and it is no discredit to a great man's memory to say that his loss did not make such an enormous difference to our chances as we were wont to imagine it would do. Our readers may consider the analogy a little stretched perhaps, but our meaning, we hope, is clear. It is that 18 years ago the planting world was confronted with the calamity of labour shortage due to extensive openings in rubber. In fact this cry of new extensions ruining labour prospects has been in evidence since the formation of the U. P. A. S. I. We will even admit that we have ourselves used it in these articles, but is it not a fact, when one really thinks of it, that the area under Tea, Rubber and Coffee has enormously increased during the last 15 or 20 years, and yet, although the labour position is undoubtedly acute, we see no reason for stating emphatically that it is any more acute than it has ever been before? There is just one point in exception to this general statement, an exception we think which proves the rule. In 1918 we suffered terribly from the Influenza epidemic. Some districts got off lightly, and these do not realize the terrible effect the disease had on their more unfortunate neighbours. It followed that 1919 was a bad year. The number of coolies who died is variously estimated, but there is no doubt that the number who went down and required infinite care in handling before they could be persuaded to return, was fabulous. Last year then, the dictum that to open up largely when already short of labour was a mistaken policy had some force, but only for the reason stated.

It may safely be assumed that the effect of the Influenza epidemic is being felt now, if at all, in only a very slight degree. The cooly's memory is after all an uncertain thing, and the removal of this bogey may, and most probably will, lead to a much freer movement of labour this year. That is one of the hopeful signs, and, returning now to our analogy, we see in it how the calamity of 1918 had its immediate effect, but that it will need something more lasting to cause any continued depression in the labour market.

Now it is also true that, even admitting the freer movement of labour this year, we have got to make up for the shortage caused by actual death and certain other causes, for instance,

the increase in the cost of living, and consequent increase of pay in the low country, and

external competition.

The point we have then to emphasize is this, that, faced as we are with certain obstacles by way of labour, are we going to accept them as our fate and bring up "all standing," or, are we going to overcome them, either in our own way, or by a combination of interests, and proceed, in spite of the jeremiahs, to open up and develop the resources of this country for its own

good, for the good of its people, and for our own benefit? The answer is obvious. We shall continue to develop, and rightly so, but on lines perhaps a little different from those of other times. We shall seek fresh fields and pastures new, we shall fight external competition with its own weapons, we shall make the country more attractive to the cooly than that of any other, and thus, in our dogged British way, we shall carry on. Can it be said for one moment that Ceylon, the F. M. S., Burmah, or Assam contemplate restricting the extension of existing areas or the development of new? It cannot, and yet in these countries the planter is dependent on South Indian labour. At a stroke of the pen the Madras Government, if it cared, could place a limit on emigration to these countries. We wonder what its answer would be if requested to do so. It would probably be on the lines of the argument put forward by the Ceylon Deputation to the Viceroy, that the coolies who emigrate from South India form *the surplus population*. Could we employ the 2,50,000 coolies who go annually over the seas? No, we could not, and our competitors do not therefore fear us, but the sword of Damocles which does hang over their heads is the extension of the area under cultivation in this country.

Apart from this question of labour, it is not unprofitable to consider for a moment whether this is a time for development of tropical areas or not, and we do not hesitate to say that we see no reason for holding back in either Tea, Rubber, Cocoanuts, Coffee or Pepper. For the moment, perhaps, tea is a doubtful proposition, but it is really in an unassailable position when one considers the expansion which is taking place all over the world. The question of increasing the Tea Cess in this country, for instance, has arisen entirely out of the need for increased propaganda. The work in America has, as we know, been in abeyance during the war. With its resumption and the removal of restrictions on exports from Great Britain, short work will be made of the stocks at home. As a food-stuff, tea has no bogey to fear in the shape of a synthetic rival. The Persian market, as yet untouched, lies before us, and Russia, that voracious consumer, must necessarily resume operations sooner or later.

In rubber, we have often enough pointed out the belief at home in its great future. On another page we publish an account of the laying of a piece of road in London with rubber blocks. Here is a vast field that may yet absorb surplus stocks in very little while. Again the continental demand at present is practically nil, and this cannot go on for ever. Prices are not high, but it must be remembered that planters now-a-days, with the benefit of experience behind them, are going to be in a position to bring areas into bearing at a considerably lower rate than was done in the old days. Yields must necessarily improve when we take to heart the lessons of our own experience and the teachings of our scientists, so that now-a-days *we start right*, which we have certainly never done in the past. Coffee is in clover for some time to come yet, obviously, and cocoanuts were never in a more promising position than to-day. In fact the whole world is spending considerably more money than it ever before possessed, as fast as it can earn it. It is one of the reasons for the high cost of living—it is equally one of the reasons why the present is an opportune moment for development. If the only bogey is labour, then that bogey must be squashed—it can be done, if we go the right way about it, but let us not on any account shrink from facing it.

SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Coffee and Rubber in Uganda.

The Annual Report of the Department of Agriculture, Uganda Protectorate for the year ending 31st March, 1919, has just come to hand, and it contains some interesting information about the Planting industries of that Colony.

Coffee.

The acreage under Arabian Coffee, cultivated by Europeans is 21,085, but in many cases the older trees are being cut out with a view to concentrating on Hevea which has been interplanted, and coffee has thus become more and more of a catch crop in those parts of Uganda where rubber gives a greater promise. A considerable area of coffee is grown by natives, but the crop receives very little cultivation. The export of coffee during the year under review amounted to 54,311 cwts., valued at £106,009.

Coffee appears to suffer from the attacks of a large number of different insects, one of the worst being *Antestia*, a poochie present in South India where, luckily, it does little harm.

Experiments are being conducted at the Agricultural Station with *robusta* and *excelsa* coffee, and the latter appears to be a promising variety. It is a stronger, larger, and more tree-like coffee then *robusta*.

Rubber.

Hevea rubber has come to the front recently, and is on several estates displacing coffee as the main plantation crop. It continues to give good promise, and the yields are satisfactory. The acreage planted by Europeans is 11,255, but only a small amount of this is in bearing. The exports during the year under review were 253,063 lbs. as compared with 108,336 lbs. in the previous year. There would appear to be few rubber diseases, but bark diseases cause a certain amount of trouble.

Experiments to test the value of various tapping systems are being conducted on the Agricultural Stations, and these appear to point to the fact that a single cut on either one-half, one-quarter, or one-third is the best, a conclusion reached some time ago in the East.

It is of interest to note that, in one of the experiments, one series consists of two lines of trees forming an avenue, and, it is noted that these trees, having plenty of room for development instead of being overcrowded, show a better development than those of the same age in more congested conditions; bark renewal is more satisfactory, and they give a clear demonstration of the benefits accruing from wide spacing.

This is noticeable in the yield also. This series of 42 trees was planted in 1906 (and thus 13 years old at the time of report). They were tapped with one cut on a left hand section of a half on alternate days and the average yield per tree was 5·288 lbs.; the tapping season was $8\frac{1}{2}$ months. This may be compared with two other series of the same age, which were tapped with two cuts on a quarter daily, and gave an average yield per tree of 4·637 lbs. and 4·257 lbs., respectively, during 8 months and $5\frac{1}{2}$ months, respectively. This would appear to be a clear case of the benefit of wide spacing on yield.

One cut on a half daily and alternate daily on 8 year old trees appears to give much the same result over a period of $4\frac{3}{4}$ months, the average yield per tree being 1·1 lb. and 0·98 lb., respectively. This is of course in favour of alternate day tapping, as practically the same yield is obtained at a much reduced cost of production.

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

HEVEA SEED.

The Surinam Leaf Disease.

In our issue of 26th July last year, Mr. Anstead has a short note * on the Hevea Leaf Disease of Surinam, which is caused by a fungus *Fusicladium Macrosporum*. This fungus thrives wherever wild rubber grows, in South America, British Guiana, Trinidad, etc., and it is the existence of the various species of wild rubber in Surinam that has led to its attack on cultivated Hevea in that country. In the note to which we have referred, it was stated that the remedial measures adopted by the Surinam planters had resulted in success, but it would appear, from the proceedings of the Ceylon Agricultural Experiments Committee, that this is not the case, and, in fact, that cultivated *Hevea Brasiliensis* in Surinam, as in many other countries in the Western Hemisphere, has been rendered impossible by this disease.

Fortunately this fungus is not so far known to occur in the East, presumably owing to the absence of the host plant, and for the reason it behoves us to follow the lead of Ceylon and prohibit the importation of Hevea seed from the Western Hemisphere. At the Ceylon Committee Meeting on February 8th, the Chairman submitted the following memorandum :—

Some ten years ago a serious leaf disease of Hevea was discovered in Surinam. The fungus (in one stage) had been previously found on Hevea in the Amazon Valley. The disease has since appeared in B. Guiana and Trinidad, and it is now known to occur wherever Hevea is cultivated in S. America. An account of it was published in the TROPICAL AGRICULTURIST for April, 1914, and further details in November and December, 1916. The disease has been investigated in Surinam since 1911. By 1915 it had become so serious that it was recommended that planters, who were growing Hevea and Coffee together, cut out the Hevea and grow coffee only, and one Government rubber plantation was converted into a coffee estate. An elaborate scheme of control was drawn up, but did not succeed. Reports of the conditions prevailing at present have recently been received from Surinam and B. Guiana. In B. Guiana the area under rubber is decreasing, partly owing to this disease, but also because labour cannot be obtained to tap the trees. The Director of Agriculture says rubber cultivation is going from bad to worse, he sees no future prospect. In Surinam, the Mycologist engaged in investigating the leaf disease says it has destroyed rubber cultivation in three or four years; there is no prospect for estate rubber on the S. American Continent. The cultivation of Hevea as a plantation crop in S. America seems to have been rendered impossible by this disease. All species of Hevea are attacked, whether wild or cultivated. At present this fungus is not known to exist in any country in the East : we ought to take all possible precautions that it may not be introduced. When coffee leaf disease began to be serious in Ceylon, our West Indian Colonies prohibited the import, not only of coffee, but of all plants and seeds from Ceylon: and, whether it may be *post or propter hoc*, the coffee leaf disease (Hemileia) has never occurred in the Western Hemisphere. It is not proposed to go as far as that, but it is certainly advisable that the import of all Hevea seeds and plants from America be prohibited. This step was taken by the F. M. S. in 1917, as regards B. Guiana only. As the disease is known to occur throughout all the rubber

* P. C. Vol. XIV, No. 30, Hevea Leaf Disease in Surinam, Page 453,

districts, wild or cultivated, of S. America, this limited area of exclusion is insufficient. Moreover, it is unlikely that anyone would wish to import Hevea from B. Guiana, where the planted " Hevea brasiliensis" was introduced from the East. It is especially necessary for Ceylon to extend the area of exclusion, as this country is a clearing house for the Eastern Tropics for plants from all parts of the Tropics, not from British Colonies only.

Col. T. Y. WRIGHT asked whether the seeds and plants could not be fumigated.

THE CHAIRMAN said plants were fumigated to kill insects, but fumigation could not affect a fungus, which was inside the plant. Even in the case of insects, fumigation sometimes failed. After discussion, the Chairman proposed : " That this Committee is of opinion that the import of plants or seeds of Hevea (all species) from any part of the Western Hemisphere should be prohibited. "—Carried unanimously.

Such is the report appearing in the *Tropical Agriculturist* for February. It appears to us desirable that the local Committee of the Rubber Growers' Association should bring the matter to the notice of Government through the U. P. A. S. I., with a view to excluding from the already sufficiently lengthy list of diseases to which Hevea is heir in this country, this further menace to the prosperity of the South Indian Rubber Industry.

MARKET REPORTS.

Coffee.

We refrained last week from calling attention to the drop in the price of coffee from 185s to 178s per cwt., as indicated by our weekly cable, because, as the market was reported quiet, we thought perhaps a little dullness was to be expected owing to the Easter holidays. Our cable this week has, therefore, dropped upon us with the force and effect of a bomb-shell, and we are faced with a drop of no less than 20s per cwt., and an indication that the market has flattened out. Events leading up to this collapse must necessarily remain obscure until we receive the home papers. In the meanwhile, extracts from various sources will show how unexpected this fall in prices has been. For instance, Messrs. Grace Brothers, Ltd., in their report dated 10th March, say that coffee has been very firm, and stocks in Europe, according to During and Zoon, showed a decrease of 230,000 bags against an increase of 124,000 bags during the same period last year. Messrs. Leslie and Anderson quote sales of AI at 191s., B's at 180*s*., Peaberry 199*s*. 6*d*., Triage 160*s*. 6*d*., so that their anticipations for good prices have, they think, been realised. It is true we are informed, as time went on, that there was little interest in the sales, but, as late as March 24th, Messrs. T. H. Allan & Co. reported :—

> " Fine qualities are still scarce and realise fancy figures—the record
> " prices of 200/6*d*. for bold size and 214/for P. B. have been paid for
> " Costa Rica. Commoner kinds meet with little demand, and export
> " trade is practically at a standstill owing to politics and exchange.
> " At these high levels dealers are naturally afraid to hold heavy
> " stocks, and there is no room for speculative buying, so that we are
> " reduced to a hand to mouth business."

Stocks in London on March 6th were 17,296 tons against 17,714 tons in 1919, and 31,845 in 1918. A week later this position had altered somewhat, as will be seen :—

LONDON COFFEE RETURNS.

	Home Consumption.		Export.		Stock.	
	1920. Tons.	1919 Tons.	1920. Tons.	1919. Tons.	1920. Tons.	1919. Tons.
For week ended Mar. 13 ...	601	364	589	99	17,352	17,248
For 11 weeks ended Mar. 13.	4,595	2,848	4,205	1,105	...	...

Tea.

We have noticed recently, in the Madras Dailies, a Reuter telegram to the effect that prices of this commodity were sagging. As a matter of fact, with the exception of coffee, which continued firm, a month ago there was a lull in business activity for most markets in Mincing Lane, and prices in most commodities had a tendency to decline. According to Messrs. Leslie & Anderson, the political situation, both in London and the world over, had much to do with this lack of confidence. A reference to the Minutes of the Indian Tea Association will show that measures have been suggested to regulate sales. This is a measure we have personally thought necessary for a long time past. The congestion at the docks is steadily growing worse as further cargoes arrive. When these show signs of early release there is an immediate effect on prices. We feel sure most S. Indian Planters will agree with the attitude of the Indian Tea Association in proposing the restriction of shipments to London. It seems to be the only way to ensure a price that will cover the cost of production.

Rubber.

There is no doubt about the dullness of this market, and one can only conjecture the reasons for it. One is that there have been practically no orders in the market, and for the moment supply was ahead of the demand. Stock remains unchanged at 20,000 tons. "Macson" in the *India Rubber Journal*, writes under date 20th March :—

Our market presents a very altered condition this week ; most markets do, but rubber has had a very serious relapse.

A feature for quite a long time has been the large outside bull account, which has been strong enough to hold the market at a high level.

Slowly and steadily the real trade conditions have asserted themselves, and stand plain to all, consequently there has been a great desire to unload holdings. Much has been done in this direction, and there is very much more yet to be done.

Our chief consumer, the United States, has had to face, by reason of exchange rates, a loss of 70 per cent. of her export trade on one hand, and on the other has been tempted to buy over heavily, with the result that February imports into New York show over 30,000 tons of rubber, credit badly used and absorbed, causing domestic development to slow down. American manufacturers now say they cannot use anything like the quantity of rubber they anticipated to use this year. At the moment they are faced with the coming to hand from the Pacific ports of 10,000 tons, held up by frost and snow.

Political news from the Continent, threatened rise in the Bank rate—all have helped to shake out a somewhat uneasy market.

THE PRICE OF RICE.

The price of rice in the low country is always a matter of some importance to the planting community, and we have pleasure, therefore, in printing the following statement, issued by the Publicity Bureau, showing the retail price of rice as it stood at the beginning of April compared with the price at the end of January this year in the different districts.

RETAIL PRICE PER BAG OF 2 MAUNDS
(164 LBS. NET OR 48 MADRAS MEASURES.)

		Week ending 24—1—1920. Rs. A. P.	Week ending 10—4—20. Rs. A. P.
1.	Ganjam ...	14 15 3	14 10 10
2.	Vizagapatam ...	16 13 6	17 3 3
3.	Godavari ...	15 8 7	16 13 6
4.	Kistna ...	12 2 11	15 13 6
5.	Guntur ...	16 2 7	17 9 4
6.	Kurnool ...	22 0 4	18 6 3
7.	Bellary ...	23 4 10	20 5 5
8.	Anantapur ...	21 6 10	17 15 8
9.	Cuddapah ...	22 10 3	20 13 11
10.	Nellore ...	16 13 6	16 7 11
11.	Chingleput ...	14 2 7	16 3 10
12.	Madras ...	18 6 3	17 9 4
13.	South Arcot ...	17 3 3	16 13 6
14.	Chittoor ...	15 8 7	15 13 6
15.	North Arcot ...	17 3 3	16 2 7
16.	Salem ...	21 6 10	19 13 4
17.	Coimbatore ...	22 10 3	19 6 11
18.	Trichinopoly ...	21 6 10	19 6 11
19.	Tanjore ...	17 15 8	16 7 11
20.	Madura ...	21 6 10	19 6 11
21.	Ramnad ...	21 6 10	Not received.
22.	Tinnevelly ...	22 10 3	17 3 3
23.	Malabar ...	18 14 4	17 15 8
24.	South Kanara ...	17 3 3	16 2 7
25.	The Nilgiris ...	23 4 10	17 15 9
	Presidency average ...	18 14 6	17 9 3

It will be seen that there has been a slight fall in the price of rice, except in the Northern Circars. In these districts the prices had been artificially kept down up to the beginning of March, 1920, by the restrictions on export. After the withdrawal of these restrictions there was a marked rise in price; but in the last few weeks the tendency, even in these districts, has been downward. The downward tendency in the price of rice in the Southern Districts of the Presidency is due, no doubt, to the opening of export from the Northern Circars, combined with the reaping of the harvest in the Southern Districts.

The Presidency average price for a bag of 164 lbs., or 48 Madras measures, was Rs. 17-9-3 for the week ending 10th April, 1920, while the average price for the same week last year was Rs. 16 8 6.

A RUBBER ROAD EXPERIMENT.

Opening of a Short Stretch in the Borough High Street.

The first experiment on a practical scale to test the use of rubber as a road-making material is now in progress. The site of the test lies in the Borough High Street, between the "Elephant and Castle" and St. George's Church. The whole of one side of the roadway has been made into a rubber surface by means of special blocks. The whole of the "up" line of traffic from South and South-East London which passes along this thoroughfare will, therefore, be the test load which this new road surface will be called upon to bear. The appearance of the road is practically identical with that presented by the ordinary wooden blocks, and it is almost necessary for the pedestrian to step off the pavement on to the rubber road before he appreciates the fact that the road paving is not of wood, but has a softness of tread and a resiliency which rubber alone possesses. The total area of the roadway thus treated is 400 square yards, and this is the first occasion upon which an area of such considerable dimensions has been used as the basis of a thorough-going experiment. The work is being carried out by Rubber Roadways, Ltd., and Mr. Arthur Harrison, the Engineer of the Southwark Borough Council.

The Blocks used.

A short description of the type of the rubber blocks used will at once show that a considerable advance has been made upon the former types of rubber paving, with which small-scale experiments have been undertaken.

The blocks employed in Southwark are 9 in. by 3 in. and five-eighths of an inch in thickness. There is about half-an-inch thickness of grey rubber, then a layer of vulcanite closely held to a steel plate, which has 18 circular perforations through which the vulcanite layer has been led, in order to make a tight and secure contact. The steel plates are cut in four places, and the strips thus cut are turned downward to form projecting "lugs." Thus, the under-side of each block has four steel lugs, the office of which is to become embedded in a concrete foundation.

The makers of the blocks are the Leyland and Birmingham Rubber Co., Ltd. Our representative watched the men laying the new roadway, and found that what was being done was simply to lay the blocks firmly upon a 3½ in. foundation of wet granolithic concrete, each block being gently tapped down, so that it lay flat and even, the concrete flowing over the lugs. According to the safe time to be allowed for the proper setting of the cement and the final securing of the lugs in its mass, some time was allowed to elapse before the road was thrown open for traffic, which auspicious event took place on Wednesday last.

Road Foundation Preserved.

From an earlier test in pre-war times—in Old Kent Road, where rubber on wooden blocks was employed—it was found that the rubber surface tended to preserve the road foundation from disturbance, because apparently the rubber absorbed the more or less continuous shock of the traffic. The significance of this fact lies rather on the financial side of the proposition, the idea being that, though rubber paving must be expensive, it may, by reason of its durability and preservative action on the road foundation, prove ultimately to be by no means so expensive in the long run as the initial outlay would appear to indicate.

The present experiment is the outcome of a movement for extending the uses of rubber, and is associated with the activities of Rubber Roadways, Ltd., a company whose name connotes its purposes.

Too much importance need be attached to no experiment as far as conclusions are concerned until the experiments have had time to mature. However, the present essay is distinctly notable as the first to be undertaken with a specially constructed block, and in a situation where the fullest test, both in regard to amount and variety of traffic, will be applied to the rubber road.

The Reason for the Rubber Road.

It may be asked, why have a rubber road at all? What advantages does it offer? We think evidence is at hand to show that the new roadway will be noiseless, sanitary, and non-skid. The noiselessness is obvious, a squeegee passed over it will remove all surface accumulations, but the chief advantage looked for, and one the importance of which it is difficult to overestimate in these days of motor traffic, is the non-skid quality which the new road is expected to exhibit in a marked degree. It is interesting to note in this connection that the first use of rubber as a road-covering was motived by a desire to do away with noise. With this single aim in view, several London hotels some time ago adopted slabs of rubber, about 6 feet by 3 feet and of 2 inch thickness, in situations where the noise of incoming and outgoing traffic was a nuisance. Some trouble ensued, owing to a shrinkage of the rubber which caused partitions between the edges of the slabs, and this experience suggested the use of blocks.

Local use of Rubber.

It should not be assumed that the present experiment is intended, even if thoroughly successful, to be the forerunner of a campaign for the general use of rubber roadways. In many parts of each city and town such a departure is not called for. On the other hand there are certain places, such as the vicinity of hospitals, universities and other localities, where silence is requisite. These would be appropriate situations for the placing of the new blocks. To examine only a few such spots, one may cite the stretch of road outside the City of London School, just off the Embankment, where it is difficult for the scholars to hear the Professors speaking. If it can be demonstrated that the new road is both noiseless and non-skid, here will be an opportunity to use it, for the neighbourhood is one where considerable motor traffic is met with.

There are many other places, such as Oxford Circus and Fleet Street, where the conditions of heavy traffic, and especially motor traffic, would be well met by a really non-skid road surface. The importance, therefore, of the present experiment lies in the direction of the local application of the principle, if it is found successful. All innovations must perforce be thoroughly tested, and it would be quite a mistake to prematurely form a judgment with regard to any particular form of rubber as road-making material. Former experiments have been full of teaching as to what to do and what to avoid. No doubt the present test will have been of great utility in this respect, even if it does not at once demonstrate that the right system has been adopted.

The Opening.

At the opening of the new roadway on Wednesday just, before twelve o'clock, the Borough Engineer, Mr. A. Harrison, the Assistant Engineer, the foreman, and a few casual observers were present, the india-rubber trade

being informally represented by our representative. For half-an-hour during which the latter watched the tide of traffic, horse-drawn and motor, sweeping over the rubber blocks, there was every sign that some of the claims of the inventors were at once justified. The trudging step of the heaviest iron-shod cart horses, heavily laden motor buses, and well-burdened lorries all applied their test to the blocks, with what success was summed up by a carter on a heavy dray. He was evidently aware of the identity of the Borough Engineer. At all events, as his dray went by he shouted, "The shoes don't slip." As a matter of fact none of the horses' shoes did slip, and when a horse drawing a full-loaded cart stopped on the rubber road and then re-started, he got a firm grip with his shoes with the greatest ease. As the treated part of the roadway is tongue-shaped, and thus has a narrow part, that narrow portion will be called upon to carry all the load of traffic which, judging from observation, is inclined to spread itself out over the wider area of some 16 feet from curb to tramline, when that broader part of the road is reached.—*India Rubber Journal.*

INDIAN TEA ASSOCIATION

The Indian Tea Association publishes the following figures for information.

Reports of Indian Tea from Calcutta, Chittagong and South Indian Ports.

	1920. lbs.	1919. lbs.	1918. lbs.
Sailing to Great Britain from Calcutta in February 1920 Black...12,397,634 Green... *Nil.*	12,397,634	16,321,236	27,157,644
Sailings to Great Britain from Chittagong in February 1920 Black... 6,149,066 Green... *Nil.*	6,149,066	6,931,588	14,666,235
Sailings to Great Britain from 1st April 1919 to 20th Feb. 1920 (including Chittagong)...	293,780,198	247,377,090	233,589,345
Sailings to Australia and New Zealand in February 1920 ...	2,487,416	250,246	987,292
Sailings to Australia and New Zealand from 1st April 1919 to 20th February 1920 ...	6,268,342	6,999,697	8,684,892
Sailings to North America in Feb. Black... 988 659 Green... *Nil.*	988,659	321,102	1,542,175
Sailings to North America from 1st April 1919 to 20th Feb. 1920 ...	13,198,222	2,711,050	35,545,659
Sailings to other places in February 1920 (see below) Black... 1,341,223 Green... *Nil.*	1,341,223	639,712	1,546,541
Sailings to other places from 1st April 1919 to 20th February 1920 ...	10,295,579	14,255,547	25,528,572

The following are the shipments from Southern Indian Ports during the month of February 1920, *viz* :—			1920. lbs.	1919. lbs.	1918. lbs.
Cochin—					
To London	607,833				
Rome	20				
Trieste	14				
African Ports	6,185				
Asiatic Ports.	22,535	lbs.			
		636,587			
Tuticorin (direct)—					
To London.	1,367,321				
Colombo.	153,646	lbs.			
		1,520,967			
Quilon—		*Nil.*			
Alleppey		*Nil.*			
Calicut—					
To London...	799,350				
New York..	29,297				
Mombassa.	3,043				
Bombay ...	22,573	lbs.			
		854,263			
			3,011,817	653,322	3,274,785
Do. do. from 1st April 1919 to 28th February 1920 ...			27,269,129	33,054,583	24,670,455
Total Sailings from 1st April 1919 to 28th February 1920 ...			350,811,470	304,397,967	328,018,923
Daily customs entries for export from Calcutta to Great Britain from 1st April, 1919 to 28th February, 1920—					
	Black	220,244,697		220,244,697	
	Green	*Nil.*			
Do do from Chittagong					
	Black	72,019,912		72,019,912	
	Green	*Nil.*			lbs. 292,264,609
Do do from Calcutta, 1918-19					
	Black / Green	*Not available.*		*Not available.*	
Do do from Chittagong 1918-19					
	Black	51,572,359		51,572,359	
	Green	*Nil.*			
Exports from Calcutta to Bombay by rail from 1st April to 28th February, 1920 ...					lbs. 9,786,344

* Exports of Tea from Ceylon as per Ceylon Chamber of Commerce Price Current Figures.

					lbs.
Total Exports from 1st January to 15th March, 1920...				Black	28,077,137
Do.	do.	do.	...	Green	426,296
Do.	do.	do.	1919...	Black	36,042,749
Do.	do.	do.	...	Green	275,454
Do.	do.	do.	1918...	Black	24,235,497
Do.	do.	do.	...	Green	336,078
Do.	do.	do.	1917...	Black	32,065,854
Do.	do.	do.	...	Green	619,623

These figures are obtained from manifests completed up to 15th March; incomplete manifests prior to that date are not included.

Statement showing the destination of exports of tea to sundry ports during the month of February 1920.

	lbs.	lbs.
Argentine	55,760	
Bolevia	15,000	
Chile	287.867	
Cuba	256.304	
France	21,715	
Holland	11.233	
Japan	2,600	
Mauritius	1,920	
Persia	96,000	
Peru	7,650	
Russia, Southern	20,040	
Siam	1,472	
Spain	20.200	
Straits Settlements...	17,841	
Turkey, European...	16,000	
Do. Asiatic—Persian Gulf	266,430	1,098,032
Akyab	3 624	
Bassein	184	
Rangoon	239,383	243,191
TOTAL... ...		1,341,223

* The above figures are included in the exports shown above.

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, 30th March, 1920.

PROCEEDINGS :—The proceedings of the last meeting of the Committee, held on the 19th March, were confirmed after previous approval in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON) :—Letters dated 26th February and 4th March from the Indian Tea Association (London), which had been circulated to the Committee, were now brought up for final consideration and disposal. The principal subjects dealt with in these letters were as follows :—

(*a*) *The position of the industry : and regulation of sales.*—As mentioned in the proceedings of 17th February last, the General Committee had cabled to the London Association regarding the position of the industry in view of the enhanced cost of production mainly due to the high rate of exchange ; the suggestion was made that the London Association should endeavour to arrange minimum prices to meet the situation. On receipt of the London Association's letter of 29th January, as stated in the proceedings of 2nd March, it was found that the general position had been engaging attention, and that the regulation of offerings on the London market was being arranged ; and the General Committee then decided to cable London recommending regulation of the sales of both 1919 and 1920 crops in Calcutta and London, and the stoppage of all private sales without exception during the period of regulation. This cable was sent on the 2nd March.

The views of the London Association with reference to the position, prior to the receipt of this telegram from the General Committee, were contained in the letter of 26th February. While sympathising with the proposal that an endeavour should be made to arrange minimum prices to cover the cost of production, they were of opinion that sufficient unanimity among producers could not be obtained to enable the proposal to be carried out. Meantime the position was that London concerns were able to sell their 1919 crop at a profit, and the only way in which it seemed possible to help in London was by regulating sales there.

This position was confirmed by the London Committee's reply, dated 19th March, to the Committee's cable of 2nd March. It read :—

Referring to your telegram of 2nd March Committee propose to continue regulation sales last year's crop. Recommend delay shipment of new crop as far as possible and that you co-operate by postponing sales of new season tea latest date possible. Too early deal with 1920 crop.

The General Committee now discussed the position at some length. They were disposed to support the London Committee's recommendations

but, in order to make these effective and to secure unanimity, they considered it essential :—

(*a*) that both Calcutta and London must undertake not to sell privately, or to make forward contracts for the 1920 crop as long as it was necessary to restrict shipments, or to regulate sales ;

(*b*) that it must be agreed that tea sold by auction in Calcutta should not be shipped to London ; and

(*c*) that Ceylon should undertake to restrict shipments to London, and to regulate sales.

It was decided to telegraph to the London Association to this effect, and the Committee further proposed that, on receipt of a reply, a meeting of sellers should be convened to obtain support to the proposals. It was also agreed to issue a circular to members informing them of the position.

(*d*) *Diversion of Steamers from London to outports in the United Kingdom.*—At the last Committee meeting, a telegram from the Ceylon Chamber of Commerce on this subject was quoted. The terms of the telegram and the reply given to it were fully set forth in the proceedings of that meeting. On receipt of the London letter, dated 4th March, it was ascertained that the telegram had, in point of fact, been sent from the London Tea Association *via* Ceylon, as the delay on this route was less than on the direct route to India. It appeared from the London advices that the diversion of the steamers had been ordered by the Ministry of Shipping in consequence of the congestion at London. Tea importers were taking legal advice as to their position with reference to diverted cargoes, their contention being that they were entitled to delivery in London, and that, irrespective of the fact that the diversion was ordered by the Ministry of Shipping, the responsibility of delivering there still attached to the ship-owner without any liability, on the part of the shipper, for the cost of bringing the cargo back to London.

The Committee meantime noted the position, and further information regarding it from the London Association was to be awaited.

THE MADRAS AGENCY TRACTS.—In the Assam Gazette, dated 17th March, there was reprinted for general information a copy of the Government of Madras, Order No. 227, dated 4th February. The order included several notifications, the first of which related to the opening of the whole of the Ganjam Agency Tracts to recruitment by duly accredited garden sirdars ; and notification No. IV related to the prohibition of recruitment from the Vizagapatam Agency of all persons other than *Dombs*, except in the Palkonda taluk, recruitment there being allowed in the case of any person, irrespective of tribe.

The information contained in this order had already been received by the industry, and it was referred to by the Chairman of the Assam Labour

Board in his remarks at the annual meeting of the Association, held on 12th March. The papers were now to be recorded.

PROPOSED LEGISLATION REGARDING THE SALE OF FERTILISERS IN INDIA.—A letter, dated 19th March, from the Government of Bengal, Revenue Department, forwarded copy of a circular No. 224-368-19, dated the 18th February, from the Government of India, Department of Revenue and Agriculture, and of its enclosures on the subject of a proposal for legislation regarding the sale of fertilisers in India, and requested the views of the Association and of its Branches on the subject.

The papers explained the history of the question. It had been under discussion for a number of years by the Board of Agriculture in India, and it was the subject of a note prepared by Dr. G. D. Hope, late Chief Scientific Officer of the Association, and discussed at the tenth meeting of the Board. When the matter was originally before the Board in 1907, Mr. Couchman, then Director of Agriculture, Madras, and Dr. Mann, then Chief Scientific Officer of the Association, explained that the use of commercial fertilisers was practically limited to the planting communities, that the interests involved were small, and that fully guaranteed manures were available in sufficient quantities. The view taken by Dr. Hope in his note on the subject was that the position had since changed, that a large percentage of the total quantity of manures used consisted of Indian material, that the demand for these manures was likely to increase still further, that worthless and adulterated material might be foisted on ignorant purchasers; and that legislation to control manures was now desirable. After discussion, the Board unanimously adopted a resolution to the effect that the time had arrived when some form of legislation was necessary. The Government of India were in general agreement with the Board, and had prepared a rough scheme of the lines which they considered should be followed. This scheme, which, it was explained, followed in its main outline the provisions of the British Fertilisers and Feeding Stuffs Act of 1906, was indicated in the papers.

The Committee decided, in the first place, to refer the papers for opinion to the Scientific Department of the Association and to the Branches and local Associations, and also to ask the United Planters Association, and the Dehra Dun Planters Association, for their views on the proposals.

INDIAN TEA CESS COMMITTEE.—A letter dated 23rd March from the Government of India, Board of Industries and Munitions, requested the Association to nominate representatives to serve on the Indian Tea Cess Committee in place of the Hon'ble Mr. W. O. Grazebrook and Mr. W. A. Duncan, who had resigned. Mr. Grazebrook was a representative of the London Association, and it was agreed to cable to the latter asking them to nominate a successor. The Committee also decided to nominate Mr. J. A. C. Munro to the seat vacated by the resignation of Mr. Duncan.

The Committee discussed a question in connection with the representation of the Association on the Cess Committee. For some time past, there had been under consideration by the Cess Committee a proposal to approach the Government of India, with a view to having the maximum amount of the cess payable under the provisions of the Cess Act raised from ½ pie per lb. to 1 pie per lb. The Cess Committee were strongly of opinion that this step

was very necessary, as they had, for a considerable time past, found that ¼ pie was insufficient to provide a reasonable sum for use on propaganda work. It had been ascertained that the Government of India would be prepared to make the necessary amendment in the Act provided the industry were unanimous in asking for it, and the Cess Committee were now making a reference to the various Associations interested for the purpose of ascertaining their views. At the time when the Cess Act was introduced, the number of tea gardens under Indian control or management was very small: but in recent years a fairly large number of such gardens had been opened out, particularly in the Dooars and on the north bank in Assam. It was proposed that an endeavour should be made to ascertain the views of Indian planters with regard to the increase of the cess, and also that some arrangement might be considered with a view to giving Indian planters representation on the Cess Committee. This might be obtained either by increasing the number of members of Committee, or, by the Indian Tea Association arranging to nominate Indian planters to two of the seats to which they were entitled to nominate. The Committee, whose views on the point were invited by the Chairman, agreed with him that the latter arrangement would be quite satisfactory.

HOMEWARD PASSAGES.—A communication, dated 25th March, from Messrs. Jardine, Skinner & Co., drew attention to the serious shortage of accommodation available for tea garden managers and assistants whose leave was long overdue, and who, although their names had been registered for many months, were still without passages or prospects of accommodation. To all representations the same answer was made, that passages were booked strictly in order of registration, but it was notorious that many passages were obtained by persons who had no claim thereto on any grounds whatsoever. Referring to the recent notices regarding extra passenger steamers being made available, the suggestion was made that the Indian Tea Association should apply for a percentage of the berths, and allot them to planters according to the duration of residence in India since last home leave.

The Committee sympathised with this suggestion, but did not think it would be capable of practical application. They had already had the general question of passage accommodation under consideration at their meeting on 17th February, and, as then arranged, they had addressed the Bengal Chamber of Commerce regarding it. They now decided to address the Chamber further, to ask that a definite statement should be pressed for from the authorities as to the probable dates of sailing of the additional steamers, and to urge that the despatch of these vessels should be expedited as much as possible. In writing the Chamber, reference was also to be made to the very great dissatisfaction prevailing among the general public in regard to the allotment of accommodation, for the Committee agreed with Messrs. Jardine, Skinner & Co.'s criticism of the position under which persons without any legitimate claim to consideration, such as cold weather visitors, were given preference over people who had spent years on end in the country. Enquiry was also to be made with reference to the additional steamers, which it was understood would be in Messrs. Mackinnon, Mackenzie & Co's agency, whether only persons registered with that firm would be allotted accommodation, or, if passengers registerd with other shipping firms, and with firms of passenger agents, would be placed on an equal footing with those registered with Messrs. Mackinnon, Mackenzie & Co.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents).

Land Grants to Returned Soldiers.

DEAR SIR.—I have read with interest your article and the correspondence on the subject of land grants to returned soldiers.

I, and others, heartily sympathize with the views expressed by "Carnatic," and think that, if the U.P.A.S.I. would take up the subject and approach the Madras Government, they would take up our cause, and not be behind all the countries who are doing so much for their returned men.

If an example were set by those who should lead, I am convinced that the Native States, who have shown so much patriotism and generosity, would be only too ready to follow it, and help those few who threw up their billets to join up in the early days of the war.

I hope none of us grouse, as we know we did no more than our duty as British subjects, but the fact remains that we lost five years of our career, and it would be nice to have some compensation for seeing our juniors and contemporaries—and even new men taken on during the war,—in the billets we had hoped would be ours.

Your faithfully, "TRAVANCORE."

Development in Tea.

DEAR SIR,—In the report, a copy of which you doubtless have, of the General meeting of the Ceylon Association in London recently held to consider the Ceylon Labour question, more particularly the writing off of all old advances and the abolition of the advance system altogether in future, a reference is made on page 15 to clause 44 (b) of the proposed new Labour Ordinance, which perhaps you or some of your readers can throw some light on. It would appear from this that a certain limited advance is to be allowed, as we read, that "all credit except that allowed under the ordinance" (clause 44 b)—is prohibited.

It would be interesting to S. Indian Planters to know exactly how this clause reads, as who is to say when a similar ordinance will not be introduced in S. India? It is impossible to believe that coolies will come up to estates without any advance at all, and, if in future the recovery of advances is to be made illegal, then whatever money is paid to coolies before leaving their villages will have of course to be charged direct to estate expenditure. If, on the other hand, a certain limited advance is permitted and estates may recover it, as is perfectly right and just should be the case, then it would be interesting to know the probable amount of such advance, which it is not unreasonable to suppose would be based on the limit of the Ceylon Ordinance.

Another point, which perhaps may be thought important enough for comment and elucidation editorially, is this—WHY, with the present none too plentiful supply of labour for existing estates (few of which are getting the crops they could get if more labour for manuring, better plucking, etc. were available), do we hear of so many new extensions to be undertaken in the near future? Would it not be a sounder policy to ensure the full development of all existing estates first, and is this not a matter worthy of serious consideration at the next annual UPASI meeting? I am referring to tea estates only, of course. If the present policy of unlimited new openings is to continue unchecked, then how can we expect the labour position to improve, and, are we not asking for trouble? Competition is severe enough in all conscience, surely, without cut-throat competition amongst ourselves, over which old and new estates alike are going to be the losers, and it is to be hoped that it is not beyond the power of the UPASI to decide on a policy of real combination in this matter *before it is too late*, as well as in respect to rates of pay and advances.

Yours faithfully, "X"

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 23RD APRIL, 1920.

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THE BROWN BAST MYSTERY.

Mr. R. D Anstead, Deputy Director of Agriculture, Planting Districts, has left Coimbatore on a year's leave, and we were fortunate in being able to persuade him to analyse for us, before his departure, a lengthy paper on Brown Bast, by Harmsen, one of the Dutch Mycologists, a translation of which appeared in "The Malayan Tin and Rubber Journal" of 31st October. This paper, besides being highly technical, would have robbed us of more space than we could possibly spare had we printed it *in extenso*, and we are therefore greatly indebted to Mr. Anstead for his lucid review of it and his remarks thereon, which will be found further on in this issue. Before proceeding to read it, however, we trust those interested will peruse the few remarks we have to make on the subject, and the letter we are embodying in this editorial from our old friend "Keralam."

We would emphasize the fact that this paper, which Mr. Anstead calls "the most important contribution to the question" in recent months, is written by a Dutchman, presumably a Government Officer, a man, fortunately for the British majority of the World's Rubber Growers, absolutely free from and untrammeled with the taint of commercialism, whose work is thus given to the world even in its incomplete stage, so that we have been able to follow, in previous papers and in this, the events leading up to the present position, and, therefore, the methods of the learned author. We should pause a moment and compare the efforts of this Dutchman and his compatriots with those of our own scientists, many of whom have no doubt done great work both in the cause of science and for the benefit of those who employ them, but who are bound, by the contract into which they have entered, to a ridiculous silence. We had thought, with the formations of the Brown Bast Investigation Committee in the F. M. S., that this pernicio us system would at long last be broken, but we have yet to see the result of this combination of Government Officers and scientists in private employ. Either they must admit themselves beaten by this mysterious condition of the rubber tree, or they should justify their silence in some other way.

We see from the above remarks the importance to the Rubber planter in South India of the special Rubber ,Mycologist whose home and station are now ready for him but who has yet to be appointed. The letter from "Keralam" is an example of a planter carrying out the suggestions of a Mycologist in a country very different from that in which the experiments on which the suggestions were based were made. It may be said that the application of hot tar in Java should have the same effect as a similar application in South India, and that it is not a matter which climatic and other conditions might influence. But the inference is there all the same, and, in blindly following the advice of a Mycologist, however eminent he may be, whose experience is that of a country entirely different from ours in climate, nature of soil, periodicity of rainfall, etc., we run a grave risk. On the other hand, with our own Mycologist working here under the very trees he will be called upon to nurse, we shall have the opportunity of experimenting on the lines laid down by the Dutch and our own scientists in such a manner that local conditions may be taken into consideration, and the risk overcome of applying unsuitable methods just because they are successful elsewhere.

"Keralam" writes :—

With reference to Harmsen's suggestion of applying hot (bubbling hot) tar to tissue which has been scraped, it is as well to warm those adopting the treatment that there is a certain danger attached to the use of *hot* tar. It has been found, on trial on certain estates in South India, that in some cases the bark covered by the hot tar rots right down to the cambium, and in many cases the cambium rots too, thus making ugly wounds and exposing the wood of the tree. This, apparently, is usually when the attack of Brown Bast is heavy. The wounding owing to the rotting of the bark after the application of the hot tar is not due to too heavy scraping, or to too thin a tissue being left on the cambium. Cases have been noticed where the bark left is ¼ of an inch in thickness, but which has rotted all the same. Another danger point, so far as this rotting is concerned, is on the upper side of the junction of the big side roots with the stem. Trees, in some, cases have rotted so badly that hundreds of borers have attacked the rotten portions, boring through the tar right into the stem of the tree.

I have not seen this danger mentioned in any article on scraping and tarring, and, as it is a serious question, I thought it as well to make the warning.

At the Matale Planters' Association meeting, the Chairman in his report (quoted in the *Times of Ceylon*, 6th February) stated: —"No effective treatment has yet been found for this disease, which is very much in evidence in Matale. *Stripping and scraping have alike failed.*" The sentence I wish to draw attention to is the one I have italicised. I draw attention to it because this is precisely our own experience in South India. In stripping experiments conducted over large areas in South India, it has been found that the bark untreated on a treated tree, that is to say the portion of the perimeter left unstripped because not diseased, is almost invariably found diseased 10 months to a year after the treatment of the other portions of the bark. Whether this is due to the effect of tapping being continued on the unstripped portions or not, I cannot say, but experiments are now being conducted in this direction, and trees which have had any bark stripped are being left untapped. These trees will be examined, and should unstripped portions of bark in them be found diseased, then it must be "thumbs down" on the stripping method. In the meantime, perhaps some of your interested readers will tell us whether they have found new Brown Bast tissue on treated and rested (rested from tapping) trees. It may be mentioned that, in one district of South India at least, it has been found extremely difficult to strip trees during certain season of the year. From November to February, only 50% of diseased trees could be stripped on one estate, and the remainder had to be scraped. It is perhaps possible that the flow of sap may have something to do this, but Mr. Anstead would be able to tell us something about it.

With regard to scraping, there is no doubt that, in cases where the disease is very far advanced and deep seated, the whole of the diseased tissue cannot be scraped away without exposing the cambium and thereby making a wound. In fact, I have seen cases where, to the naked eye, it appears as if the diseased tissue extended right through the cambium and into the wood. Where this has happened, it would appear hopeless to expect that, any amount of scraping or tarring, or any other treatment except excision, can be of the slightest use. In other cases the disease seems to have penetrated through to the cambium, and so, in scraping, to prevent wounds, a certain amount of diseased tissue must be left unscraped. This means then, that the disease cannot be eradicated by scraping unless the process is repeated, perhaps several times, with intervals of, say, six months or so.

The case for stripping would appear to have been lost because the disease usually appears on the unstripped side of the tree. The case for scraping would appear to be lost because it will be impossible, in some cases, and difficult in others to entirely remove the diseased tissues.

In this connection it is necessary to point out that the rubber industry in this country is undoubtedly losing a considerable sum over this one disease; that, as time goes on it will lose more each year; and that it is absolutely necessary that a Mycologist should be appointed without delay to enquire into this obscure disease in South India. The scientists further East are doing much to help, but the results of their work is mostly in private hands, and is, therefore, not available to us.

It is calculated that the rates of increase of diseased trees is somewhere in the neighbourhood of 10% per annum, and a very simple sum in arithmetic will suffice to show that, in a few years, unless a cure for Brown Bast is found or the disease checked in some way, the rubber at present planted will cease to yield.

We have unfortunately to endorse the sentiments expressed by our correspondent in the last two paragraphs of this letter.

THE U. P. A. S. I.

At this season of Annual Meetings, so many changes in office-bearers have taken place, apart from the changes due to so many planters proceeding on leave, that we consider it advisable to give publicity to the corrected list of General Committee Members of the U. P. A. S. I.

ASSOCIATION.		MEMBERS.
Anamalais ...	...	Messrs. C. K. Pittock & John Carless.
Bababudin ...	...	Do. N. G. B. Kirwan & S. H. Dennis.
Central Travancore	...	Do. J. S. Wilkie & E. C. Sylvester.
Coorg ...	...	Do. A. J. Wright & P. G. Tipping.
Kanan Devans	...	Mr. G. R. Strachan.
Mundakayam	...	Messrs. J. R. Vincent & Eric Hall.
Nilgiri ...	...	Do. A. K. Weld-Downing & J. B. Vernede.
Nilgiri-Wynaad	...	Do. R. Fowke & F. W. F. Fletcher.
North Mysore	...	Do. C. H. Browne & W. H. Reed.
South Mysore	...	Mr. C. J. Hayward & Col. W. L. Crawford, D. S. O.
South Travancore	...	Messrs. J. Mackie & R. Ross.
West Coast	...	Do. H. Walmsley & A. C. Morrell.
Wynaad	...	Do. Edmond E. Eyre & J. A. Gwynne.

We have yet to be advised who will represent the newly joined Shevaroy Planters' Association, and it will be seen that the Kanan Devans Planters' Association has only one representative.

SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Brown Bast.

Since we last wrote on this subject (*Planters' Chronicle*, Vol. XIV, page 840) the most important contribution to the question has been a paper by J. R. Harmsen, a translation of which appeared in the *Malayan Tin and Rubber Journal* of 31st October, 1919.

Harmsen first of all points out that the pale yellow discolouration, which is typical of Brown Bast infected trees, is always confined to those layers of tissue in which the latex cells and sieve tubes are situated, and that it never appears in the outer layers of bark. The withdrawal of latex causes the discolouration to spread over a larger area. In an affected tree the lower right-hand corner of the tapping cut is seldom attacked, but, if a change over is made and the right-hand section is tapped, this lower corner becomes affected. When affected trees are given a complete rest the discolouration does not spread, but remains limited to the tapping surface.

In cases where wind has damaged trees which are diseased in the tapping surface by tearing away branches, the discolouration may appear in the upper stem also. As the tapping cut approaches the junction of the stem and roots these latter may also become affected. As a rule, however, the Brown Bast symptoms do not appear in the trunk or stems above the tapping surface, showing that the disease is caused by abnormal circumstances causing a variation in the physiological conditions.

At one time it was thought that the spread of the disease from one tapping section to another could be checked by cutting a deep gutter down to the cambium between them, but the author finds that this is not the case

The fact that Brown Bast is not infectious, and cannot be produced by inoculation from an affected into a healthy tree is emphasised. In fact there seems little doubt, but that the so-called disease is a case of wound degeneration, and a similar phenomenon has been noted and studied in the tissue surrounding wounds in other trees which do not produce latex. This is important, for it shows that, besides the withdrawal of latex there are other

factors contributing to this phenomenon. Any acute disturbance in the flow of sap caused by fracture of the ducts appears to produce the symptoms of Brown Bast. Thus, the author hit the bark of some trees which had never been tapped with a hammer, always on the same spot, with short sharp strokes, for several days in succession. The bark at this spot became soft, and yielded relatively little latex, and after six weeks had a calloused edge of sound cells, and, surrounding that, a layer of degenerated tissue with all the characteristic features of Brown Bast.

Now the shallow wound made by tapping should produce no degeneration; it becomes covered in under a layer of cells, and the tissues grow again normally. It is only after a considerable period that we find the symptoms of wound degeneration appearing in the tapping surface, and the period depends on the powers of resistance of the individual tree. A few extremely strong trees seem able to resist the daily irritation caused by tapping, and never contract the disease if normally tapped.

When Brown Bast makes its appearance, the reason must be ascribed to the repeated wounding and consequent irritation, the withdrawal of latex and the impoverishment of the tissues, which eventually causes the outward sign of wound degeneration. A heavy strain is put upon the cells and tissues, quite apart from the loss of latex, there is a constant alteration between turgidity and tension in the tissues and heavy demands are made upon them. The result is lignification of the cell walls, formation of stone cells, and, in general, wound degeneration, which we call Brown Bast. The degeneration makes its first appearance in just those parts in which the increased activity and irritation of the cells caused by the withdrawal of latex are most directly felt. If we tap a tree very heavily, say six times a day, Brown Bast makes its appearance in an extremely short time, and, if we insulate portions of bark and continue to tap them, the disease appears at once.

This, then, is Harmsen's explanation of the cause of Brown Bast, and it seems to be reasonable and logical, and supported by facts. The only serious opposition to this view of the cause of Brown Bast has been put forward by Keuchenius in the *Malayan Tin and Rubber Journal* of 17th December, 1919, who claims to have found bacteria to be present in the affected tissue. His evidence is not very convincing, but undoubtedly there is room for more work on the subject along bacteriological lines of attack.

We now turn to the question of preventive and curative methods. Prophylactive treatment has no effect whatever, the coating of the tapping cut with disinfectants has no effect upon Brown Bast, and is only of use in protecting the cut against fungoid attack, such as *Phytophthora* in the form of Line Canker.

Of all methods adopted as curative, two only appear to be of any use, *viz.*, stripping and scraping. Harmsen recommends scraping off the diseased tissue down to a thickness of about two milimeters and then applying warm tar, and he claims that in a large number of cases this method has proved successful.

On some estates in South India both methods have been given a careful trial. We have recently had an opportunity of examining the results. Stripping, on the whole, appears to produce the better renewal, and even large areas, which are stripped and coated with Beeswax to protect them from the ravages of bark-eating slugs and other insects, now show nicely healed surfaces free of wounds, and a satisfactory thickness of new bark. The objection to stripping, however, is the fact that it can only be carried out at certain times of the year when active cambium growth is

taking place which will allow the bark to "run." It is probably easier to strip young trees in active growth than old ones, where growth has more or less stopped.

Scraping and tarring has given somewhat variable results. In some places as many as 14 per cent. of the trees treated by this method have developed wounds where the cambium has been killed down to the wood, and in some these wounds are of a considerable size, and the tree is rendered useless for future tapping purposes. The cause of this is not clear. It is attributed in one case to the fact that the tar was used too hot, and in fields where the tar was used cooler the percentage of damaged trees has been reduced to under one.

Bark renewal appears to be slow, but good in successfully treated cases, but, in both stripping and scraping it, remains to be seen whether the disease has been removed and cured. Only time will tell this, and we shall not know till the bark has renewed sufficiently to re-tap. Since Brown Bast is probably not a specific disease, but due to certain definite causes connected with wound degeneration and tapping, there is nothing to prevent it recurring again even in cured trees when tapping is recommenced.

This leads us to consider the question of prevention, which is quite distinct from that of cure. Can we prevent Brown Bast? Harmsen says "No." As long as we grow rubber for commerce the appearance of Brown Bast may be expected. Weaker trees will always develop the disease when tapped. A modification of the tapping system is indicated as the surest preventative of Brown Bast, which is a serious consideration in South India where our yields are already low. It has, however, been pointed out that other disturbing factors besides tapping may produce degeneration and a tendency to Brown Bast. One of these factors is the closeness of planting. Trees which have lost their crown show the symtoms of Brown Bast equally quickly as those deliberately over-tapped. In wet weather, when the rate of production per tree rises, Harmsen found an increase in the number of trees attacked, especially on estates which had remained unthinned, and he states that, when thinning out is done, a directly favourable influence is noticeable, and a decrease in the number of trees attacked. Thinning out in time and with judgment is to be desired, and his advice is to take care that, in each plantation there is adequate space for development of the crown of foliage of each individual tree separately. By placing the trees in a favourable condition we co-operate in forming a lusty crown of foliage, and in this way secure a better supply of foodstuffs, a better means of bark renewal, and a greater power of resistance in the tree itself. Remove, especially in the early years, as many as possible of the trees which develop Brown Bast. Trees which show signs of the disease soon after tapping begins are of a type susceptible to degeneration. It is wrong to suppose that the best producers are likely to be the most susceptible to the disease.

Apart from this, there must be other factors which play a part in this physiological disease, and in our last article on the subject we pointed out that cultivation, and manuring probably played a part. We are gratified to find that Harmsen holds the same views. He concludes his paper by saying that, before adopting a tapping system which will result in decreased yield of latex, and thus a reduced productiveness of the capital invested, it behoves us thoroughly to study all the factors which influence the appearance of the disease in greater or less degree, viz :—

(a). Cultivation of the soil and drainage.

(b). Thinning out and slight pruning. Never prune heavily.

(c). The study of the trees in order to thin them out to the best advantage.

(d). Prevention of diseases which bring the tree into an unfavourable condition, such as Black Thread, Pink Disease, Root Disease, etc.

(e). The prevention of large tapping wounds.

(f). The maintenance of an estate in an absolutely clean condition, and the removal of all dead wood from the trees.

(g). Not to return to the use of tapped bark within four years. (In South India, a seven to nine year renewal is probably advisable).

When we have done all we can to bring our estates into good condition, if the disease still appears to any severe extent, then the tapping system must be modified.

Personally, we are inclined to believe that, where good cultivation is done, which includes the retention of top soil, and a system of drains ; where the trees are widely spaced and thinning out is begun early, and where they are systematically manured having due regard to the needs of the tree and the deficiency of the soil, Brown Bast will be found much less prevalent than it is at present. Experiments are being tried on these lines, but of course time alone will show whether our ideas are correct, and, unfortunately in the case of rubber it is a slow game, and one can only wait as patiently as may be.

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

DISTRICT PLANTERS' ASSOCIATION.

Mundakayam Planters' Association.

Minutes of the Quarterly General Meeting, held on the 17th April, 1920, at the Mundakayam Club.

PRESENT:—Messrs J. J. Murphy, (Chairman) ; R. Harley ; G. McPherson : C. L. McLean ; H. G. Miller ; R. Lester ; H. R. C. Parker : R. M. Saywell, H. B. McPherson ; Nicolson ; E. Hall (by proxy), and F. H. Moulton, (Honorary Secretary).

Visitor—Capt Shore.

1. MINUTES OF ANNUAL GENERAL MEETING.—These were taken as read, and on the proposal of Mr. G. McPherson, seconded by Mr. McLean, were confirmed.

2. MINUTES OF COMMITTEE MEETINGS.—The Honorary Secretary read the minutes of a Meeting, held on the 28th February, which were as follows:—

PRESENT:—Messrs. J. J. Murphy (Chairman) ; R. Harley ; E. Hall ; C. L. McLean ; and F. H. Moulton, (Honorary Secretary).

The Chairman's action in asking Mr. Moulton to become Honorary Secretary in place of Mr. Sullivan, who was leaving the District, was approved of.

MYCOLOGICAL STATION.—After considering the resolution passed at a Meeting of the Executive Committee, U. P. A. S. I., on the 8th inst, with reference to the money required to complete the buildings, it was resolved :—

(1) That, in the opinion of this Committee, the balance required to complete the buildings should be paid out of the money set aside for recurring expenditure on Mycologist and Staff.

(2) That, pending a settlement of the matter by the General Committee, U. P. A. S. I., the buildings be finished out of the money now being collected for U. P. A. S. I. Cess, as there would be heavy loss if they were to be left incomplete. Ad-

vances are still outstanding, sawn timber is lying in the jungle, and some of the buildings are still untiled.

(3) That the Mundakayam P. A. be responsible to Mr. Harley for Rs. 4,500, the amount stated by him as necessary to make the buildings safe against the weather.

MYCOLOGIST AND STAFF.—Resolved that this Committee considers the delay in engaging a Mycologist very serious, and requests the Executive Committee, U. P. A. S. I. to press the matter urgently with Government.

COOLY CHATTRAM.—The Hon. Secretary was asked to write to the Hon. Secretary, C. T. P. A , with reference to the watchman's petition for extra pay, etc.

(Signed) J. J. MURPHY,
Chairman.

(Signed) F. H. MOULTON,
Hon. Secretary.

Mr. Lester proposed, and Mr. G. McPherson seconded that the minutes be confirmed. (Carried).

3. MYCOLOGICAL STATION AND RUBBER MYCOLOGIST.—The Honorary Secretary read a letter, dated 7th April, from the Secretary, U. P. A. S. I. stating that the General Committee have sanctioned payment of the extra funds asked for, and asking on behalf of the Chairman for an explanation of the M. P. A. Committee's resolution passed on the 28th February. The Chairman said: "Mr. Harley, who leaves for England next "week with our good wishes for a pleasant holiday, has handed over the "buildings to me in a practically finished state. Not only are the thanks "of the U. P. A. S. I. due to him for the time and care so freely given, "but, considering the difficulties he has had to contend with, our "apologies are also due, I think, for ever having asked him to "undertake the work. Expenditure to date is Rs. 43,000, of which more "than three thousand rupees are still due to Mr. Harley. All that is "now required to complete the buildings is cement flooring and plate "glass windows for the laboratory, lime plastering the inside walls of "the small bungalows, painting or wood oiling all exposed wood work, "and a wall round the compound to keep cattle out. As regards the "financial position, you have all read the correspondence, and know "that the General Committee, U. P. A. have sanctioned payment of the "money required. The question of how the additional expenditure is to be "met is being left over for decision at the Annual Meeting, and all I need "say at present on this point—and I say it with, I trust, your complete "approval—is that this Association will certainly not agree to an extra cess "on rubber acreage as suggested by the Executive Committee. Mr. "Dandison's request for an explanation of your Committee's resolution "authorising the employment of monies collected for U. P. A. S. I. cess was "evidently made in a hurried moment, without proper consideration of the "position. As a planter of many years' experience, and as chairman of the "U. P. A. S. I., he ought surely to know that District Associations do not "as a rule have large reserve funds at their disposal, and that no other "course was open to your Committee without involving the U. P. A. in risk "of heavy loss. Had not your Committee decided to make use of the only "money available, work on the Station would have been stopped, and "untiled buildings would now be exposed to the heavy rains we are getting. "It was on the 15th January that your then Chairman, Mr. Vincent, wrote "to Coimbatore about the extra money required, and it was not till the 7th "April that the decision of the General Committee was communicated to us. "The Secretary, Mr. Waddington, is in no way to blame for the delay, but, "if urgent questions cannot be settled by the re-organised United Planters'

"Association of Southern India in less than three months, it looks as if some "further re-organising work is required. As regards a Mycologist, I have "written to Coimbatore that we approve of the billet being offered to the "gentleman mentioned by Mr. Anstead when we had the pleasure of meeting him here last month, and, if the services of this scientist cannot be "obtained, that we thought Messrs Anstead and Wood should be fully "authorised to engage a man when they go home this summer. I added "that, in our opinion, only a fully trained man should be taken on, and that "for the salary offered we thought it ought to be possible to secure a "Mycologist with some experience. If, as we are told, no British Mycologist can be obtained at present, the billet might be advertised in Dutch "papers. The Dutch may not perhaps lead the world in agricultural "science, but they certainly do not lag far behind. The urgent necessity "for a Mycologist is becoming more apparent day by day, and until we get "one, rubber estates in this District will continue to obtain poor value for "their acreage subscriptions to the United Planters' Association of Southern "India."

4. SRI MULAM POPULAR ASSEMBLY DELEGATES' REPORT.—In the unavoidable absence of Mr. Vincent, the Honorary Secretary read the notes sent by him on the Popular Assembly.

The Meeting accorded a vote of thanks to Mr. Vincent for having attended the Assembly.

5. TRAVANCORE COMBINED PLANTERS' ASSOCIATION.—The Hon. Secretary read a letter from Mr. Vincent explaining that no meeting was held in February, as he and the representative of the C. T. P. A. were the only Delegates sent to Quilon. The Chairman said that the Travancore Combined Planters' Association did not appear to him to serve any useful purpose, and that he thought it should be wound up and the money in hand given to the Planters' Benevolent Fund. It was decided, however, to continue the subscription for another year.

6. ROLL OF HONOUR.—It was proposed by Mr. Lester and seconded by Mr. G. McPherson that the matter be dropped. (Carried).

7. ANTI-CHOLERA INOCULATION.—The Hon. Secretary was asked to again write to the Durbar Physician with a view to Government obtaining a supply of the serum.

8. COOLY CHATTRAM.—It was agreed that:

(1). The watcher be given a temporary allowance of Rs. 2 per mensem.

(2). The watcher be ordered to keep a book showing the number of coolies from each estate using the Chattram.

(3). The Honorary Secretary be asked to write the Honorary Secretary, C. T. P. A. *re* building a Chattram at the 17th mile.

(4). The Honorary Secretary be authorised to purchase a lamp for the Chattram.

9. INDIAN TEA CESS.—The proposal to increase the Indian Tea Cess from $\frac{1}{4}$ to 1 pie per lb. was approved of by the few members interested in tea.

10. SOUTH INDIAN PLANTERS' BENEVOLENT FUND.—The Hon. Secretary was asked to write to all Companies in the District asking for subscriptions, and to circulate a list among all members of the Association. Rs. 180 were collected from Members present.

11. WAR MEMORIAL.—The Hon. Secretary read a letter from Mr. Vincent, and it was decided to leave the matter over to the next meeting.

With a vote of thanks to the Chairman, the Meeting concluded.

(Signed) J. J. MURPHY, *Chairman.*

(Signed) F. H. MOULTON, *Hon. Secretary.*

HOOKWORM DISEASE IN MADRAS.

By Dr. George P. Paul M. D., C. P. H.

In the investigation carried out at Negapatam, it was ascertained that a very high percentage of those persons examined, harboured the hookworm, or ankylostome. For a few of the districts the representative rates of infection with hookworms were: Trichinopoly, 98·4 %; Tanjore, 99·3 %; Malabar, 99·3 %; Madura, 91·5 %; Tinnevelly, 95 %; South Arcot, 98·3 %; Coimbatore, 97·3 %; Ramnad, 98 %. The examination of persons from Cochin, Travancore, Pondicherry, and Pudukottah also showed a very high percentage of infection with these parasites. These figures verify former inferences of the great degree of incidence of hookworm disease in the Presidency of Madras, and South India.

The effects of this disease, economically, in Madras must be very great, as has been demonstrated in other countries where hookworm control has been in progress for an extended time. It has been stated that, if the treatment and cure of hookworm disease in the population of India should increase its efficiency by only ten per cent, a gain of more than 30 millions sterling would result in India each year. On seven estates of Ceylon there was a decrease of 1,132 sickness calls, or 44 per cent, for four months of 1917, following treatment of labourers for hookworm disease, as compared with the same months of 1916, before the labourers had been treated for the disease. The decrease in bowel complaints and in malarial fevers among the coolies on these estates was especially marked. The investigations conducted by Lieut.-Col.Clayton A. Lane, in the Darjeeling district, showed, that treatment resulted in noticeable improvement in the health and efficiency of labour. One manager wrote Doctor Lane that, during the three months preceding the campaign against hookworm disease, at least forty-five men were continuously absent from work because of sickness. During the same three months of the following year, after the hookworm campaign, only twenty-six men were laid off for this reason—a reduction of 42 per cent. Another manager reported that, previous to the time treatment was given his labourers, between 150 and 200 of them were absent from work daily during the rainy season. In 1918, after treatment had been administered, the number daily absent from work during the rains never exceeded sixty, and usually was considerably less than that figure.

In Trinidad, the treatment of hookworm persons and sanitary reform reduced, by two-thirds, the number of patients admitted to the hospitals of estate and Government schools. In British Guiana, the reduction of hospital patients after hookworm operations was 31·5 per cent. On one estate in Demerara, the amount of sickness had increased to such an extent that, before the labourers were treated for hookworm disease, an addition to the estate hospital was planned. As a result of the hookworm campaign which intervened between the planning and the erection of the hospital addition, it was found unnecessary to enlarge the hospital. So great was the reduction in the sickness after hookworm disease had been treated, that even the original hospital building was seldom filled to capacity. In the same colony, the good results of hookworm treatment were so apparent that estates employed special forces to undertake the work of examination and treatment, and bore the entire expense connected with the improvement of sanitary conditions on the plantations. The work resulted in a great improvement in the health and efficiency of the estate labourers, who were formerly the

poorest, physically, in the colony. The manager of the Demerara Bauxite Company stated that the efficiency of his men had been increased from 25 to 50 per cent by the campaign. Statements of this sort are coming from all parts of the world where hookworm control is being undertaken.

Hookworm disease is dependent upon soil pollution. The eggs of the worm gain access to the ground by means of human excreta. After a day or two the eggs hatch open, and from each comes a baby hookworm. This larva continues to live in the soil, and will not reach the adult form if it remains in the soil. If the larval worms come in contact with the skin of a human being they cling to it, and in a short space of time will have bored their way through the skin and have entered a blood vessel. By the blood stream they are taken to the heart, and thence pumped into the lungs, where they proceed along the air spaces, bronchial pipes and air tube to the back of the mouth, when they are swallowed. They then pass through the stomach and the first part of the small intestines. When they reach the second portion of the small intestines they attach themselves to the lining of the bowel by means of teeth or suckers. Soon after entrance into the intestines the worms reach the adult form and size, which ranges from one-third to one-half inch long and the thickness of coarse sewing cotton. The adult worms live on the blood and the tissues lining the bowels. In this way they cause physical injury and deplete the blood. They also elaborate a poison which is absorbed by the person, and produces characteristic symptoms. The female worms lay their eggs in this location. Each worm is capable of laying from one thousand to two thousand eggs daily. If a person harboured a thousand female worms, which would not be unusual, you can infer the immense number of eggs that are daily being scattered, to later infect others.

A great number of persons are so lightly infested that they do not apparently feel the effects of the disease. From a control standpoint these individuals are as important as the heavily infected cases, as they may spread the disease. The hookworm is no respecter of social position, age, sex or colour. No one is immune who may come in contact with polluted soil.

The symptoms of hookworm disease vary with the degree of infection. Mild cases may show but few symptoms. Children will appear slightly below the normal without showing any definite signs of illness. They are small for their ages; somewhat pale or yellow-looking, and, if attending school, may show slight mental backwardness. Lightly infected adults are apt to feel generally tired and easily get fatigued. Palpitation of the heart and slight shortness of breath may be noticed. The more heavily infected persons present marked signs. They become weak, and have marked palpitation of the heart. Shortness of breath is distressing. Dyspeptic signs are very noticeable, and in children the protuberant abdomen is characteristic. Anæmia becomes great. Later, swelling or dropsy of the lower limbs, and the face sets in, and may advance to a high degree. In children very marked effects are not unusual. Stunting of the physical, sexual and mental development are discernible. Physical and mental backwardness may reach the degree of six years, that is, a child of 16 years may present the characteristics of a child of 10 years. About 10 per cent, it is estimated, die of the disease itself. Very many are so reduced in vitality and resistance by hookworm disease that they easily fall a prey to other maladies.

The treatment is simple and very efficacious. It is usual to cure about 70 per cent with two treatments, and to entirely cure with an average of four treatments. The prevention of reinfection is the important factor. This is greatly aided by the installation of a sanitary excreta-disposal system, whether for a home or a large estate. If the poison can be prevented from reaching the ground, the infection already in the soil will of its own accord disappear. The disposal system for an estate need not be an elaborate one, necessarily. Two indications are to be met; excreta shall not escape and thus reach the soil, and it shall be fly-proof.

The Surgeon-General with the Government of Madras, through the Anti-Hookworm Campaign, has instituted control work in the Malabar District of the Presidency. Within the near future the work will be extended to estates. Actual control operations will be carried out on the estates. The Anti-Hookworm Campaign will co-operate with the planters to the fullest extent. It will assist those estates which wish to conduct the work themselves, by training their staff, instructing them in the system which we have found most valuable, and will actually inaugurate the work on the estate. On other estates the Campaign will do the full work. In fact they are anxious to co-operate with the planters in every possible way in the control of hookworm disease. Institutions, schools, orphanages, in fact the head of any collection of people, will do well to take up the matter of hookworm control with the office of the Surgeon-General with the Government of Madras.

OBITUARY.

The death took place quite suddenly at Mercara—Coorg, on the 14th April, of Mr. J. S. Trelawny, one of our best and most genial planters, and one who was always ready with a helping hand, either in trouble or in sport. He came to Coorg in 1878, and was with Messrs. Matheson & Co. for a short time, after which he entered Messrs. Mangles Bros'. employ in 1880, and was with them until 1895. He then decided to start on his own, and purchased a block of land, about 140 acres, which has subsequently increased by degrees, and is now known as the Peremboo Colly Estate. In 1899 Mr. and Mrs. Trelawny took their sons home, and decided to remain for a time while they were being educated. During this period the estate was managed by Mr. Davey, and on his death, by Mr. W. R. Wright, of Horoor Estate, until the management was recently taken over by his son, Mr. H. R. Trelawny. Mr. Trelawny was in England when war broke out, and immediately offered his services. At first he purchased horses all over a large area in the country of Devon for the Remount Department, and when this work was exhausted, he acted as Military Representative for Recruiting purposes. In 1916 the Royal Automobile Club accepted him as one of their drivers on Army Service, and he was requisitioned to drive officers in the Forage Department of the A. S. C., and this work he carried on continuously with his own car until January 1919. The war being over and their sons demobilized, Mr. and Mrs. Trelawny decided to return to Coorg and settle for a time at Peremboo Colly, of which they previously had so many happy recollections and in which their interests were centred. They had been out about two months when this sad death occurred. It was a great comfort to his family to feel that Mr. Trelawny died surrounded by so many of the friends he had made in his early planting days. The funeral was a Military one, and attended by all who could be present.—*Communicated.*

THE SURINAM OR SOUTH AMERICAN LEAF DISEASE.

Last week, under the heading of Hevea Seed, we published a further note relating to the danger of the possible introduction into the Eastern Hemisphere of the above named disease, and we are now able to place before our readers, by courtesy of the Secretary, U. P. A. S. I., a note thereon by Mr. W. McRae, Mycologist to the Government of Madras. Mr. McRae writes:—

During thel ast few years, there have been several references to a disease of Hevea brasiliensis in the Western Tropics. It was first noticed in the Guianas about 1907, occurring here and there, but investigators did not then regard it as likely to become epidemic. It, however, appeared in epidemic form in 1914, chiefly in younger trees. Subsequently it spread, and within three years was present on every estate where Hevea was grown.

COURSE OF THE DISEASE.—It has been investigated chiefly by Dr Stahel in Dutch Guiana (Surinam) and by C. K. Bancroft in British Guiana. There is a description of the symptoms of the disease in the *Planters' Chronicle*, Vol. XIV, page 453, and Mr. Bancroft describes the course of the disease as follows:—"When the disease commences on a plantation the "trees affected are usually scattered here and there. The leaves and leaf-"stalks show the presence of the superficial black stromata of the fungus. "Holes, produced by the falling away of the affected tissues, appear in the "leaves. Here and there the tips of the young shoots are bare of leaves. "The disease then increases in virulence owing to the production of a "large number of conidia, each of which may give rise to infection, and "the young leaves then become infected more frequently. This leads to "defoliation of the shoots, the trees becoming in some cases entirely bare "of leaves. A new crop of leaves is produced, usually within four to five "weeks after defoliation. These also are infected and fall . . The "same process is repeated. The conidia may then exist in such numbers "on the plantation that few leaves escape infection before they are more "than three weeks old. The concentration of conidiospores, therefore, is a "primary factor in determining the virulence of the disease. For the "production of each crop of leaves the supply of food reserve in the tree "is drawn upon. The tree becomes weaker as the food reserve diminishes. "The reduction of the concentration of starch in the wood of the stem, "consequent on repeated defoliation, can be easily observed. The upper parts "of the tree are depleted of food, and die. The tree is then rendered "susceptible to attack by "wound-fungi," of which the principal is the die-"back fungus, Diplodia. This fungus, on entering through dead branches, "causes the dying back, and ultimately the death of the whole tree."

Dr. Stahel, however, thinks that in Surinam the disease is sufficient to account for the damage, and that the Diplodia is not of so much importance.

CAUSE.—"The causative fungus was first examined by Dr. Kuyper in "Surinam in 1912, and named *Fusicladium macrosporum*. It has three "kinds of spores. One kind (conidia) is produced copiously on all the parts "affected, namely, green stems, leaves, leaf-stalks, flowers and fruits. They "germinate readily, and are capable of reinfecting all these parts. They "are disseminated by the wind, and seem to be the chief means of distribut-"ing the fungus. The second kind of spore does not seem to take much part "in the propagation of the disease. The third kind is produced later, and is

"very likely the means of preserving the fungus during periods when the "conditions of its development s are adverse.

"OCCURRENCE —The fungus is a native of Peru, Brazil, Dutch Guiana, "British Guiana, and probably also Trinidad. It is known to occur in the "forests of these countries on wild Hevea, namely on *Hevea brasiliensis*, "*Hevea guyanensis* and *Hevea confusa*. No other host is known, and it "is very unlikely that a host plant other than a species of Hevea exists, "since the fungus is a highly specialised parasite. In the forest the disease "affects a large number of trees. It is common in the Acre district "(Amazon) where the best *Hevea brasiliensis* occurs: it is present on "*Hevea guyanensis* in Dutch Guiana from the coast to the far interior of "the Colony; it has also been found to be present on Hevea Confusa in "British Guiana, in the interior of the Colony."

On estates in the Eastern Tropics where wild Hevea is not native the disease does not occur.

"LOSS.—On the majority of estates in the Guianas the trees of all ages "are b dly affected and die in large numbers, and tapping operations have, "for the most part, been suspended owing to the great reduction in "yield of latex. In British Guiana a fair proportion of the cultivated "Hevea, namely, that in the immediate vicinity of the coast land, is "only slightly affected. Some estates show a slight diminution of the disease, "but others show little or no sign of reduction. While in Dutch Guiana the "disease is so wide-spread, and exists in such a virulent form as to lead to "the assumption that unless some means is soon found for its control the "cultivation of Hevea in that Colony will soon prove unremunerative, in "British Guiana the condition does not yet justify this assumption."

In a recent issue of the "Tropical Agriculturist," Vol. LIX, No. 1, is a note on this disease. Dr. Stahel, the Government Mycologist in Surinam, states that the Hevea leaf disease has put an end to rubber cultivation there in three or four years' time. The few Hevea trees which by some chance remain, are at present subject to the leaf-disease to a smaller degree than before. The young leaves of these more or less isolated trees now come in contact, during the week in which they are susceptible to infection, with much fewer spores of the fungus than they did when they stood close to other trees in a strongly-infected plantation. But it is quite incorrect to deduce from the improved condition of the remaining trees that the virulence of the fungus which causes the South American Hevea Leaf disease has diminished."

In this connection Dr. Stahel records the fact that the Hevea on the estate of the Lawa Rubber Company was healthy and vigorous in the spring, but during the summer months was almost completely destroyed by the leaf disease. Rubber cultivation has consequently no future in the South American continent.

These notes are taken from his publications kindly sent to me by Mr. C. K. Bancroft, M. A., F. L. S., Assistant Director, Department of Science and Agriculture, and Government Botanist, British Guiana. Now that there is general talk about the possibility of growing better varieties of Hevea, it is quite likely that some enterprising person may get seed from

the Western Tropics, so precaution should be taken against the introduction of the disease into British India. I have, of course, no direct experience of the disease, but I had experience, some years ago, of an allied disease, that was causing great damage to apple and pear trees on the continent, and, with the record of the deadly nature of this Hevea disease before me, I wish to suggest to you to put before your Association for consideration to the question as to whether it would not be wise to put the importation of Hevea seed into British India under restriction. I advise you to ask Government that, under Section 3 of the Destructive Insects and Pests Act, 1914 (2 of 1914), the import of Hevea seed from the American continent or its islands into South India be forbidden except through the Agricultural Department, and that *Fusicladium macrosporum* be added to para 5 of the Notification of the Government of India, No. 544, dated 7-11-1917, of which I enclose a copy. These rules will be found on pages 1404 and 1405 of part 1 of the *Fort St. George Gazette*, dated 8th December, 1917.

We have already expressed the view, which McRae emphasizes here, that it behoves us to ask Government to forbid the importation of Hevea seed, except through the Agricultural Department, into Southern India. It is a matter the Rubber Growers' Association Executive in India might very well have taken up, though to do so now would savour of borrowing someone else's thunder.

NEW SOURCE OF ALCOHOL

Much attention has been given in recent years to the question of manufacturing alcohol within the Empire, for use as motor spirit. In the current number of the Bulletin of the Imperial Institute, the possibility of utilising the mowra flowers of India for the purpose is discussed. These flowers possess thick, juicy petals, rich in sugar. They are used by the natives as a foodstuff, and especially for the preparation by fermentation of an alcoholic liquor called daru or mohwa spirit. A single tree will yield as much as 200—300 lb. of flowers in a year. The tree also produces a valuable oil-seed, which is exported in fairly large quantities to Europe. During the war the flowers were used in India for the production of acetone, the yield being said to be ten times as much as that obtained by distilling wood, which is the usual source of this substance. The demand for acetone in India in peace time, however, is not great, and large quantities of the flowers would be available for the manufacture of alcohol, and would appear to be an exceptionally cheap source of this material, as the yield is high compared with that from potatoes and other materials commonly used, about 90 gallons of 95 per cent alcohol being obtainable from one ton of dried flowers. It has been estimated that in the Hyderabad State alone there are already sufficient mowra trees for the production of 700,000 gallons of proof spirit per annum, in addition to that necessary for the local liquor requirements.

It is suggested that the most profitable way of utilising the flowers would probably be as a source of mixed motor spirit of the "natalite" type for use in India. That motor spirit can be produced on a manufacturing scale in India from mowra flowers has already been demonstrated, and, it is stated that running trials with the spirit proved satisfactory.

THE AGRICULTURAL RESOURCES OF CYPRUS.

The first part of an interesting article on the Agriculture of Cyprus, by Mr. W. Bevan, Director of Agriculture in the Island, appears in the current issue of the Bulletin of the Imperial Institute. The subjects dealt with include Live Stock, Dairy Produce, Cereals, Fruits, Nuts and Vegetables.

The Messaoria plain is the great corn-growing area, and in ancient times the island produced sufficient wheat to supply all the needs of its population, which then numbered over a million, the annual production amounting to about 10,000,000 bushels. At the present time, with a population of a little over a quarter of a million, only about 2,000,000 bushels of wheat are being produced, but the yield could be greatly increased by better methods of husbandry, by the use of improved implements for cultivating and reaping and by the use of threshing machines. The methods practised have changed little, for ages. The old wooden plough is still used, whilst the threshing-floors are practically identical with those of Biblical times, consisting merely of a levelled piece of ground, sometimes paved with flagstones. A stout board, studded on the under-side with sharp flint stones (the tribulum of Virgil), is drawn over the spread-out sheaves by mules, donkeys or oxen. Large quantities of barley are grown, the production in 1918 amounting to over 3,000,000 bushels. Most of this is used locally for feeding cattle, but some is exported to England for malting purposes. The cultivation of the grape-vine and the making of wines are important industries, and the celebrated Commandaria wine, which acquired great fame in the time of the Knights Templars, is still being produced and exported in limited quantities.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents).

Control of Tea and Rubber (and Coffee, of course.)

Dear Mr. Editor,—Your note under "Notes and News" sub-headings, "Tea and Exchange," and "Rubber," P. C. 10th April.

I was delighted to see that you emphasized the point that whether our friends (or foes) the Americans or the Germans, controlled the produce of Tea or Rubber, the price also would be controlled by *them*; but, as you add, in the case of rubber, it is controlled, not by the producers, but by America, the biggest customer.

Planters combine, nominally; but they don't "call the bluff" of America, as you put it. Poker is only a partially apt illustration; for there would be no commensurate risk in holding up supplies, and one may hope that we shall down the middlemen, who play with the producers, before long.

If you are right in seeing no certainty about the level of exchange, is it not time that we protected ourselves by some sort of control of the tea and rubber, not to say coffee markets? The fact that we cannot control the whole out-put is no argument. Only a control of the maximum is necessary to insure fair prices.

Personally I hate combines; because they seldom fail to charge an unfair profit once they have obtained control: but let us hope, and trust in the moderation of the Planting community, and, if Government cannot control exchange, let us control prices sufficiently to protect ourselves.

Yours faithfully,
G. F. W. E.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 30TH APRIL, 1920.

158*s./- per cwt. Market quiet.*

FERTILISERS.

No planter's education can be called complete in Southern India if he is not aware of the attempts which have been made from time to time to introduce into this country a fertiliser act, which would have the effect of controlling in some measure the sale of artificial manures, or commercial fertilisers as they are called, with a view to the prevention of adulteration. We are able in this issue to publish a note by Mr. Anstead on the subject, in which he deals with its history, and the reasons why such an act has become an imperative necessity. He points out the advantages which will be obtained, and the manner in which the act will be applied, so that he leaves us very little on which to base this short introduction to his more expansive paper. There are just one or two points, however, which may

bear calling attention to here, which Mr. Anstead has not mentioned. At the meeting of the Board of Agriculture (tenth) in 1917, it was pointed out that the arguments used against the introduction of an act as far back as 1907 could no longer be considered material, in view of the changes apparent during the decade. The argument was that the use of commercial fertilisers was practically limited to the planting communities, that the interests involved were small, and that fully guaranteed manures were available in sufficient quantities. Mr. Meggitt, though not opposing the act, believed that there would be great difficulties in administering it, and brought forward again the same argument which had been used in 1907. The resolution, however, which was in charge of Mr. Anstead, was seconded by Mr. Stuart, and carried in the following form :—" The Board considers " that the time has arrived when some form of legislation is necessary to " regulate the sale of fertilisers in India, in order to protect both the " planting industries and the Indian cultivator." The argument which carried the day was the direct refutation of that of 10 years previously, and there is no doubt, as we hope to show subsequently in these pages, that, apart from the normal increase in the use of commercial fertilisers by the planting community, there has been an abnormal increase in their use by the Indian cultivator, more especially the ryot of the Madras Presidency.

Arising directly out of the above resolution, the proposed act has been drafted and submitted to various bodies for an expression of opinion. The proposals are purely tentative, and an opinion is asked only on the general question whether legislation is necessary or desirable at the present time, and, in the event of such opinion being favourable, on certain points of detail.

The greatest difficulty seems to be that presented by the question of definition of the term " Fertiliser," and the Government of India are inclined to think that this can best be got over by means of an excluding schedule. Thus the Act, they say, would be made to apply specifically to every kind of article, substance or mixture offered for sale as a fertiliser of the soil which is not included in a schedule to the Act. It is this schedule, and its composition which is likely to lead to differences of opinion, so we will quote *verbatim* from the proposals the clauses relating to it.

The draft says :—

It has been suggested that, for the purpose of legislation, fertilisers should be classified in the Act under three main categories, viz :—

(*a*) Substances in every day use and commonly sold by ryot and petty dealers, such as unadulterated animal manure and oil-cake.

(*b*) Products sold under recognised names, and the composition of which is definitely stated, such as animal meal, superphosphate, sulphate of ammonia, etc.

(*c*) Proprietary products, the composition of which is unknown.

" Control of the sale of articles falling under category, (a) would, for " obvious reasons, be unnecessary and impracticable. These would accord- " ingly be placed in one schedule and excluded from the operation of the " Act. In the case of category (b), it would be necessary merely " to ensure that the articles offered for sale were in fact what they purported " to be. All such articles would be included in a second schedule. In the " case of category (c) still further precautions would be necessary. A term " such as " regulated fertilisers " might be employed, to denote all articles " falling under categories (b) and (c), while those falling under (c) might be

" further distinguished by the use of such a term as "proprietary fertilisers." " To effect these distinctions in the Act, definitions such as the following " might be adopted :—

" Fertiliser" means any article, substance or mixture sold or offered " for sale as a fertiliser of the soil.

" Regulated Fertiliser" means any fertiliser not contained in " Schedule I. " Proprietary Fertiliser " means any regulated " fertiliser not contained in Schedule II. "

Then follows the suggested schedules.

SCHEDULE I.

Cattle, horse, sheep or goat manure, or any other manure derived directly from the droppings of animals.
Oil-cakes, except when sold in mixtures with mineral fertilisers.
Raw bones.

SCHEDULE II.

Animal meal.	Dried fish.
Blood meal.	Fish guano.
Dried blood.	Calcium cyanamide.
Bone meal, steamed.	Nitrate of soda, or sodium nitrate.
Bone meal, unsteamed.	Nitrate of potash, or potassium nitrate.
Bone dust.	Nitrate of ammonia, or ammonium nitrate.
Basic slag.	Oil-cake (in mixtures).
Guano.	Sulphate of ammonia, or ammonium sulphate.
Mineral phosphate.	Sulphate of potash, or potassium sulphate.
Basic phosphate.	Soda ash.
Flour phosphate.	Sulphur flour.
Ground phosphate rock.	Lime.
Superphosphate.	Limestone.
	Sulphate of lime, or calcium sulphate.

It is obvious from the reports of U. P. A. S. I. meetings that the Association is strongly in favour of such legislation. It would also appear safe to assume that planters generally will agree that the object desired can best be obtained by means of an excluding schedule. In the clause (a) above, however, in addition to animal manure and oil-cake, owing to the very large number of petty dealers on the West Coast, it will probably be found necessary to include " Raw" Fish and milled-fish, although unnecessary to include fish guano, which, having to undergo the process of oil extraction, should be brought under the Act.

With regard to Schedule I, in the second sentence, we think the word " mineral" should be deleted before "fertilisers". It is quite possible that oil-cakes might be mixed with blood or guanos, and such composite fertilisers should come under the Act, the word " mineral" appears therefore to be unnecessary.

There will no doubt be further suggestions forthcoming before this Act is finally placed before the public, but, whether they are accepted or not, there can be no doubt of its utility. As Mr. Anstead says it can but protect the interest of both planters and ryots, in addition to those of honest suppliers who, we feel sure, will unite with Government in this attempt to prevent fraud.

THE SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Fertiliser Act.

The pages of the Books of Proceedings show that the subject of the legislative control of fertilisers is one which has exercised the minds of South Indian planters for many years. Ever since 1898 legislation has been suggested, at first to enforce the issue of guarantees by the sellers, and, later, to prevent adulteration.

Dr. Lehmann again and again advocated some form of control, and in the years 1905-1906 the Government were definitely approached on the subject. At a meeting of the Board of Agriculture, held in 1907, the subject was discussed, and the Board came to the conclusion that the use of fertilisers was so small, taking India as a whole, that there was no need for legislation.

The planters were not content with this opinion, and continued to say so, but the subject disappears from the records till 1913-1914, when the question of the adulteration of Fish Manure with sand raised it again.

In 1917 the Indian Tea Association returned to the attack, and urged Government to reconsider the matter in view of the vastly increased use of fertilisers in India since 1907. Dr. Hope, their Scientific Officer, attended the Annual Meeting of the United Planters' Association of Southern India and put the views of the Indian Tea Association before them, and the following resolution was passed:—

"That the efforts of the Indian Tea Association to have a Fertiliser Act brought into law be supported by the Association."

The subject was discussed by the Board of Agriculture at their meeting at Poona in 1917, and Mr. Anstead was in charge of it. The Board reconsidered their opinion of 1907, and recommended the Government to introduce an Act, which they agreed was now necessary. An Act was drafted, following in the main the provisions of the British Fertilisers and Feeding Stuffs Act of 1906. This draft was submitted to a sectional meeting of Agricultural Chemists, held at Pusa in February, 1919, where it was fully discussed, and the present action of Government is a direct result of this discussion.

So much for history. It has been recognised by planters for many years that fertilisers should be bought on a guarantee, and that fertilisers of which the composition is known should be bought, because the name of the fertiliser in itself is not a sufficient index of its quality, even if unadulterated. Moreover, fertilisers can be intelligently selected if their composition is known. Dr. Lehmann, speaking at the Annual Meeting of the United Planters' Association of Southern India in 1906, said:—"We do not yet know what kind of plant food is most required for Coffee or Tea or Rubber, whether it is nitrogen, phosphoric acid, or potash, or perhaps lime; but, in order to find out what gives the best results, we must know what we have been applying. And, to know whether this has been principally nitrogen, or phosphoric acid, or potash, or equal quantities of two, or of all three of them, we must of course know the composition of the manures which have been applied. We should not only think of bones and poonac and "bulk," but we should also know what these supply, if we wish to study the manurial requirements of the plants we are growing."

Though, since then, we have advanced a little in our knowledge of what is required by our crops, our knowledge is still limited, and this remains the case against mixtures and proprietary fertilisers sold under fancy names, though no one buys fertiliser now-a-days without some sort of guarantee.

Another important point about fertiliser control is the fact that it enables the buyer to figure out the cost per unit which he has to pay fo

plant food, so that he may buy the cheapest under the circumstances in which he is placed.

These advantages are largely obtained by a system of guarantees such as exists at present, but there is a wider aspect to be taken into consideration. The object of control is to prevent fraud, for the commercial fertiliser trade gives greater scope for fraud than almost any other. Immense strides have been made during the last ten years by the Agricultural Department to teach the ryots the use of fertilisers, and the propaganda work of the Department is, at the present time, largely devoted to this object. Unless this work is to be stultified, steps must be taken to see that the ryots can not only get fertilisers at a reasonable price, (a matter dealt with at the last Board of Agriculture Meeting, see *Planters' Chronicle*, Vol. XIV, page 802), but also fertilisers which are pure, and what they purport to be. When the ryots are educated up to the use of fertilisers a demand will be created for small lots used by comparatively ignorant and illiterate people, and the possibilities of fraud will be much greater in India than in many countries which already have fertiliser legislation. As Dr. Hope said, "whatever be the methods adopted by Government and the Agricultural Departments to popularise the use of manures with small landholders and cultivators, it is more than probable that, as the use of manure extends, the requirements of these classes will be catered for chiefly by small merchants and middlemen, who are likely to attempt, from the beginning, to foist worthless and adulterated material on ignorant purchasers."

Now, it may appear premature to anticipate such conditions, but it is claimed that the prevention of fraud from the very beginning is much better than attempts at its suppression after it exists, and will be much easier. Fraud practised when the ryots are beginning to gain confidence in the use of fertilisers and the teachings of the Agricultural Department is likely to materially retard their use. Again to quote Dr. Lehmann—"A ryot who has been induced to try commercial fertilisers for the first time is not likely to try them again very soon if he finds them a failure, and any fraud practised in the sale of commercial fertilisers is likely to cause a loss to the ryot, so that he will look on commercial fertilisers as more or less of a failure. If the ryot who has been the victim of a fraud has had a few striking beneficial results from the use of commercial fertilisers, before being supplied with a worthless or inferior article, he is of course not so likely to discontinue their use. And, while fraud ought to be avoided wherever possible, it is particularly desirable to do so at the beginning. As a rule, fraud is of course not likely to crop up in the early stages of an industry. It requires some time to grow, and the industry that has started to grow before the frauds is generally free from them in its infancy. But in the case of commercial fertilisers in India the frauds are already here, ready to feed upon the industry as soon as they can." Dr. Harrison, the Imperial Agricultural Chemist, speaking at the Annual Meeting of the United Planters' Association of Southern India in 1915, "called attention to the fact that serious sophistication of manures did take place, and this was a serious consideration when large purchases of manures were made." Planters will know of instances when fraud, or something very akin to it, has been experienced when purchasing certain classes of manures.

This, then, is the case for a fertiliser act. Let us now turn to a consideration of the Act proposed. The chief points in all such laws are very similar. The main feature of all of them is that all dealers in commercial fertilisers are registered or licensed. In America, where there is in force the most complete system of fertiliser control in existence, each package of fertiliser has to have attached to it, in a conspicuous place, a label bearing the

name of the fertiliser, the manufacturer's name, the net weight of the fertiliser contained in the package, and its composition, for which last a special form is prescribed. In India it is not proposed to be quite so drastic as this, but commercial fertilisers must be sold under a guarantee of certain specified contents, and this guarantee must be adhered to. In the case of mixtures and proprietary fertilisers under fancy trade names, the composition of these must be clearly stated. That is to say, the different substances of which they are composed must be declared. "A statement in plain terms of the ingredients contained in the fertiliser, but the proportion of such ingredients need not be specified."

The necessity for this can be indicated by an example.

A mixture may be guaranteed to contain 8% of Nitrogen and 15% of Phosphoric Acid, and nothing said as to its composition at present. Now, a mixture of this sort might be made up in either of the following ways :—

59 parts Bone Meal and 31 parts of Nitrate of Soda, or 200 parts of Fish Guano, 15 parts of Bone Meal, 15 parts of Nitrolim and 10 parts of Basic concentrated bone phosphate. No planter needs to be told that, from his point of view, the second is the more valuable mixture. Yet both, at pre-war prices, could have been made up and sold at much the same price.

Under the proposed Act the constituents of the mixtures would have to be declared, and the planter would be able to choose between them at a glance.

All the ordinary fertilisers and manures in South India fall under the scope of the Act with certain exceptions, and the plan is adopted of listing the exceptions only in the Act. The advantage of this plan, which elicited a good deal of discussion, is that it places the burden of getting any particular fertiliser on the exemption list on the seller or manufacturer. In the alternative of listing all the fertilisers under the Act, the proprietary mixture is apt to escape, as it would be only necessary to change its name after the machinery of Government, which is necessarily and notoriously slow, had been moved to place it on the list, and continue to sell it. In America, be it noted, all dealers have to send to the proper authority each year the names of the brands of the fertilisers they intend to offer for the sale, and can only sell these.

Another important point to note is that any statement regarding the composition of a fertiliser made in an invoice, circular or advertisements, whether published by the vendor or forwarded by him to the purchaser *might be held* to be a warranty by the vendor, a breach of which would be punishable. It is strongly held by the Agricultural Chemists and Scientific Advisers to the United Planters' Association of Southern India that this should be compulsory, and the word *might* be changed to *shall*. An advertisement in the pages of the *Planters' Chronicle*, for instance, offering for sale say, fish manure, guaranteed analysis 4–5 % Nitrogen and 5—6% Phosphoric Acid would act as a warranty, and the fertiliser would have to be supplied up to this standard.

The exceptions to the Act will be Fish Manure, since in the Madras Presidency this trade is in the hands of a large number of small dealers and fishermen on the West Coast, and, it would be impossible to exercise control over them. The same thing applies to Oil-Cakes and Bones. Directly these manures are milled, however, they come under the Act, thus Fish Guano will be dealt with. Both Fish and Oil-Cakes and Bone come under the scope of the Act when contained in mixtures of all kinds, whether with minerals or other organic manures.

In the case of ordinary fertilisers, it is required that the invoice shall state the percentage of Nitrogen, organic and inorganic, *i.e.*, Nitrate Nitrogen in Nitrates and Organic Nitrogen in poonacs, etc, phosphate, soluble and insoluble, solubility being defined, probably the usual standard of one per cent. Citric acid being used; potash, soluble and insoluble. In the case of lime, limestone and basic phosphates the percentage of lime as calcium oxide, and also it is proposed the percentage of magnesium oxide. Also the degree of fineness must be stated in the case of substances like Bone Meal, Basic Slag, Mineral Phosphates, etc. This is of the greatest importance, as planters are well aware.

With regard to the working of the Act, it will be necessary to take samples for analyses in a definite standard way, and rules will be laid down in the Act as to how to do this. Official samplers will be appointed to take samples, and it is proposed that the Official Analyst should be authorised to depute persons to take samples, persons so deputed being considered as official samplers under the Act. This will overcome the difficulty in planting districts. In some of these districts, estates are somewhat inaccessible, and it would involve a lot of time and expense to send samplers out to them. If the Official Analyst is allowed to authorise persons to take samples, the various Planters' Associations could suggest names to him of men conveniently situated to each group of estates in the various districts, and he would authorise them to become the official samplers in these localities.

On the whole, the proposed Act will go a long way to help both planters and ryots to obtain pure fertilisers, and it will protect both their interests and those of honest suppliers.

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, 12th April 1920.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON).—Letters, dated 11th and 18th March from the London Association came up for consideration. The principal subjects mentioned in the letters were :—

(*a*) *Diversion of steamers from London to outports in the United Kingdom*.—It was stated in the proceedings of last meeting that the diversion of steamers ordered by the Ministry of Shipping, in order to lesson congestion in the port of London, had met with strong criticism from the shippers whose cargoes were concerned. In the letter of 11th March, it was intimated that it had been arranged to state a case for decision by the Courts, in order to find out the exact position of shippers as to the extra cost incurred by reason of the diversion of steamers. For this purpose, the Mangaldai Tea Co., Ld., had been selected as plaintiffs against the City Line, with respect to a shipment by the *City of Canton*.

Subsequent to the advices contained in this letter, telegrams dated 27th and 31st March had been received from the London Association, the latter of which stated that the test case had been successful, and that the steamer line were found liable for costs and expenses in conveying the tea from the outport to London. The situation was fully explained in Circular No 33, dated the 1st April, issued to all members of the Association.

A letter dated 29th March had been received from Messrs. Gillanders, Arbuthnot & Co., forwarding an extract from a letter received by them from

the Secretary of the Singlo Tea Co. in the same connection, and asking information as to the position. Attention was also drawn to the clause inserted by the Anchor-Brocklebank Line, purporting to relieve the line of liability in the event of their steamers being ordered by any Department of Government to an outport to discharge; this clause was referred to in the proceedings of 19th March last. Messrs. Gillanders, Arbuthnot & Co. were to be informed as to the general position, and, with reference to the Anchor-Brocklebank clause, the Committee decided to address the Calcutta Liners Conference pointing out that, under clause 8 of the tea agreement, the lines undertook to carry tea on the terms and conditions of the ordinary bill of lading for the eastern trade, and that the clause in question had not been agreed to by both parties. The request was, therefore, to be made that the clause should be deleted by the Anchor-Brocklebank Line.

(*b*) *Homeward passages.*—In the letter of 18th March, reference was made to the action taken by the East India Section of the London Chamber of Commerce, with a view to impressing on the authorities the urgency of providing more accommodation for passengers from India, and to the arrangements which had been made for making a certain number of ex-German steamers available for this purpose.

In noting these particulars, the Committee remarked that no information appeared to be yet available as to the approximate dates on which most of these steamers would be sailing. As arranged at their last meeting, they had addressed a further representation to the Bengal Chamber of Commerce on the question of passages. This letter was as follows:—

I am directed to invite a reference to my letter on the above subject, No. 206 0, dated the 17th February. Since that date the position has to some extent improved, in view of the allotment of additional steamers for civilian passengers, but, it is still very unsatisfactory, in view of the fact that information does not appear to be available as to when these steamers are likely to sail from India. There are many tea garden managers and assistants, whose leave is long overdue, who have been registered for passages for many months, and who have no prospects of accommodation as yet; this is of course only typical of what is the common experience all over India. It is now the end of March, and, under the most favourable circumstances, it seems probable that a considerable time must elapse before the majority of those now waiting will be able to leave India. The Committee have observed, from the press note recently issued by you, that the Chamber have taken the matter up urgently with the London Chamber, and they venture to suggest that it might assist if a further telegram were sent to London pressing for a definite statement from the authorities as to the probable dates of sailing, and also urging that everything possible should be done to expedite the despatch of the steamers.

2. It is no doubt within the knowledge of the Chamber that there is very great dissatisfaction among the general public in regard to the allotment of accommodation in home-going vessels; and cases have been brought to the notice of the Committee where passages were booked over a year ago, but in spite of this the applicants are still without accommodation. It is notorious that many persons have been able to secure passages home who cannot be said to have had any legitimate claim to consideration, and there must have been hundreds of cold weather visitors who have been given preference over people who have spent years on end in this country. The Committee trust that the Chamber will enquire whether some more satisfactory system cannot be devised, which will effectively secure that passages are allotted according to the priority of registration. In this connection, enquiry has been made as to whether the allotment of

berths in the ex-German steamers will be made only among passengers who are registered with Messrs. Mackinnon, Mackenzie & Co., or, if those who registered with other lines, or with the firms of passenger agents, will be placed on an equal footing with those registered with Messrs. Mackinnon, Mackenzie & Co. It is, the Committee think, very necessary that this should be arranged.

The Committee had now before them a letter, dated 7th April, on the subject from the Darjeeling Planters' Association, dealing generally with the position, and explaining the difficulties from their point of view. It was decided to forward a copy of this letter to the Bengal Chamber of Commerce in continuation of the previous correspondence, and to reply to the Darjeeling Association explaining the action which the Committee had already taken in the matter.

OCEAN FREIGHT AGREEMENT: TEA RATE FOR APRIL.—A letter, dated 6th April, had been received from the Bengal Chamber of Commerce intimating that the tea rate for April would be £7-10-0. Members of the Association had been informed to this effect, and a cablegram had been sent to the Indian Tea Association (London) giving them the information; the letter was now to be recorded.

OPTIONAL BILLS OF LADING.—In the proceedings of the meeting on the 17th February, it was stated that the question of the practicability of re-introducing the pre-war system of optional bills of lading had been referred home by the Calcutta Liners Conference, whom the Committee had addressed on the subject. A letter, dated 7th April, had now been received from the Liners Conference intimating that, in the opinion of the London Conference, the time was still inopportune for reverting to the pre-war practice of granting optional bills, owing to the abnormal conditions still prevailing in London. The Committee could not regard the reply as satisfactory. It was pointed out that the Clan Line find it feasible in practice to grant these facilities in respect of shipments from Chittagong, and it was hoped that, in view of the distinct convenience the re-introduction of optional bills would mean to shippers, this refusal would not prove final. Consequently it was decided to approach the London Tea Association and to ask them to work for the re-introduction of optional bills from Calcutta.

PROPOSED AMENDMENT OF THE INDIAN TEA CESS ACT IX OF 1903.—The Indian Tea Cess Committee had issued a circular letter, dated 31st March, giving reasons for, and inviting opinions on, the proposal to increase the rate of the cess from a maximum of ¼ pie to a maximum of one pie per pound. The Committee understood that the question had already been before the Indian Tea Association, London, and that the proposal was approved by them. The Committee themselves unanimously approved the proposal, but they felt that, in a matter of such moment, they would not be justified in definitely committing members of the Association to the proposed increase without first consulting them on the subject. The letter is printed below for information, and the Committee believe that the arguments in favour of the increase will be found cogent and convincing:—

I am directed to address you with reference to the cess which is levied, under the provisions of Act IX of 1903, upon all tea exported from India.

2. The cess came into operation as from the 1st April, 1903. It was levied at the rate of a ¼ pie per pound of tea exported; and this rate has remained continuously in force during the seventeen years that have since passed. It yielded Rs. 2,66,894 in the year 1903-04, and in the year 1918-19 Rs. 4,31,687. The average collections, annually, have been nearly Rs. 3½ lakhs.

3. At an early stage of the work, the Cess Committee realised that, with resources so limited as these figures suggest, they were confronted with

considerable difficulty. Nevertheless it seemed to them, in the prevailing circumstances, to be wise to endeavour to push the sale of Indian tea in several of the more promising markets simultaneously. They accordingly started, from time to time, propaganda work in the United States, Continental Europe, and in Great Britain. But they found that their funds were insufficient to enable them to organise and to develop large and effective publicity schemes. They were forced to work on more or less restricted lines. They could not, for example, undertake the advertising of tea on an extensive scale, in widely circulated daily and weekly newspapers. Nor, again, could they permit their agents to employ large staffs of experienced organisers and travellers. Their demonstrations and displays at important industrial and other exhibitions could not be designed on sufficiently striking lines. And, even when reasonably successful, such efforts could not be followed up by what may be termed intensive advertising work in the locality. Similarly, in every branch of their operations the Committee found themselves hampered by want of funds.

4. In the circumstances, it would be erroneous to regard the results that they obtained as discouraging. Much useful work was undoubtedly done, and some progress was made. But the growth of the consumption of tea in the various countries—for instance in the United States—cannot be said to have been great. It was, as was to be expected, no more than proportionate to the expenditure. This was the position when the outbreak of war put an end, for the time being, to ordinary commerce. Advertising operations in America, and on the Continent of Europe, were brought to a stand; and the Committee had, in consequence, comparatively large sums to devote to India, where they had, prior to the war, decided to begin work. For the past few years they have made an organised attempt to promote the consumption of tea in this country. They have spent very considerably more than they had ever previously spent in any other market. But the result has more than justified this expenditure. For their experience here confirms, what their work elsewhere has suggested, namely, that the consumption of tea in a promising market cannot be largely developed except by a well-directed and carefully planned effort, supported by sufficient funds.

5. The work in India has not been, however, completed. Heavy expenditure will be required for some few years—more particularly in view of the enlarged programme covering small towns and *hats*—if it is to be brought to an entirely successful issue. In the meantime it is impossible, for want of funds, to re-start operations in any other market. Nor are the Committee of the opinion that they would be well-advised to revert to their former policy of spending small sums in various countries. At the same time, they hold that it is a mistake to work in one country only for a number of years, to the neglect of other countries. And they would like to see large campaigns started simultaneously on the Continent and in America, with smaller efforts in Egypt, Palestine, and probably East Africa. But with only the existing revenue, no such schemes are practicable. The alternative is to increase the cess; and, this alternative has closely occupied the attention of the Committee for some time past. They are unanimously of the opinion that the Act should be so amended as to make the maximum rate one pie per pound, instead of a quarter pie. They are supported in this view by the Indian Tea Association (London), who are satisfied that, as regards Europe or America, a rate of expenditure, which was inadequate before the war would be altogether useless in existing conditions. It is not the intention to suggest that the maximum rate of one pie should be put into force immediately, as it would not be feasible so greatly to expand the operations at short notice. For the year 1921-1922, a levy at the rate ½ pie per pound would suffice.

Twelfth Annual Meeting, Assam Branch, Indian Tea Association, 20th July, 1921.

6. It is not without interest to recall, in this connection, that the late Sir James Buckingham, when originally urging the levy of the cess, contemplated a rate of ½ pie per pound. In order to secure unanimity, the rate was reduced. But the fact of the suggestion having been made shows that the need for the provision of a sufficient revenue was recognised. The revenue on the quarter pie basis has never been sufficient. And, at the present moment, it is even more inadequate—in view of the enormous increase in prices all over the world—than it was in pre-war times. Indeed if a maximum rate of ½ pie was deemed to be required in 1903, it may be accepted that a maximum of one pie now would certainly not be excessive.

7. The decision in respect of the proposal rests entirely with the industry. For the Government of India have made it clear that, if those who pay the cess wish for an increase, the necessary legislation will be undertaken without delay. The only other point, and it is of importance, is as to whether the industry is now in such a position as to need to spend money on the development of markets outside the United Kingdom. There is, the Cess Committee believe, a general agreement that this need still exists. The production and the activity of India's competitors—China, Japan, Java and Sumatra—are increasing These producers are losing no opportunity of pushing their teas in all available markets, while Ceylon—the only British producer other than India—is in the meantime inactive. It is true that the consumption of Indian tea in the United Kingdom is increasing. But, on the other hand, it must be remembered that the Russian market is closed. It may also be mentioned that the production of tea per acre increased in Assam from an average of 430 pounds in 1903 (when the cess was instituted) to 624 pounds in 1918. In the Bengal gardens, the corresponding figures are 374 pounds per acre in 1903 and 532 pounds in 1918. With the more scientific methods that are now being employed, still larger yields may be anticipated; and this important fact ought not to be lost sight of in the consideration of the future of the cess.

8. I am to ask you to invite your Association to give very careful consideration to the foregoing proposal, and to favour me, by an early opportunity, with an expression of their views upon it.

TEA CESS COMMITTEE.—In reply to a request from the Government of India for the nomination of a representative to take the place on the Tea Cess Committee of Mr. H. W. Carr, it was agreed to submit the name of Mr. J. Ramackers.

REGULATION OF SALES.—The position with reference to this matter was fully explained in the proceedings of last meeting, and it was also the subject of a circular to members, No. 32, dated the 1st April, which gave particulars of the correspondence that had passed with the Committee of the Indian Tea Association (London). A reply had now been received from that Association to the cablegram which it had been decided at last meeting to send; the reply was in the following terms:—

Referring to your telegram 1st cannot arrange conditions mentioned therein. Unanimity at present will not go beyond proposals contained in our telegram of 19th March.

The Committee noted the terms of this wire with considerable regret. They were of opinion that, in the circumstances as explained, there was now no necessity to convene the proposed meeting of sellers in Calcutta. It was not thought that such a meeting would serve any useful purpose, in view of the importance of obtaining in London unanimity regarding the conditions explained in the General Committee's telegram of 1st April. The Committee directed that a circular should be issued to members giving the terms of the reply from London, and explaining the position as indicated above.

NOTES AND NEWS.

The Planting Member.

Our readers will sympathise with the Hon'ble Mr. J. A. Richardson, whose boat has again been delayed, and will not now sail until the 19th May.

Sir Fairless Barber.

Sir Fairless Barber also leaves for home this week, and to him as well as to Mr. Richardson, we wish *bon voyage*.

The Annual Meeting.

We understand the Annual Meeting of the U. P. A. S. I. or, as it should rightly be called, the Ordinary General Meeting of the United Planters' Association of Southern India (Incorporated), will be held at Bangalore again this year, commencing on Monday, 23rd August, 1920.

The Labour Department.

Mr. A. H. Mackie, late of Pulivassal Estate, Kanan Devans, has joined the U. P. A. S. I. Labour Department, and took up his duties on Wednesday, May 5th.

Roads.

With reference to the resolution passed at the last Annual Meeting of the U. P. A. S. I., the following interesting News Slip is issued by the Publicity Bureau :—

"In order to attain a uniform standard of maintenance for the trunk roads of this Presidency, the Government have decided to relieve the local bodies of the cost of maintaining them. The actual maintenancy work will continue, as hitherto, to be carried out by the District Boards, but the Government will, subject to the condition that the road is efficiently maintained, make good the expenditure incurred up to a maximum of Rs. 500 a mile, on the average for each district, annually. The roads to which this order applies are shown below :—

Great Southern Trunk Road :—Madras to Nagarkoil *via* Chingleput, Trichinopoly, Madura, Palamcottah, (410 miles).
Madras—Calicut Road *via* Vellore, Salem, Coimbatore, Palghat, (283 miles).
Madras—Bangalore Road *via* Vellore, Hosur, (132 miles).
Kurnool—Bangalore Road, (127 miles).
Trichinopoly—Coimbatore Road, (125 miles).
Coimbatore—Ootacamund Road, (30 miles).
Ootacamund—Gudalur—Mysore Road, (38 miles).
Gudalur—Calicut Road, (39 miles).
Gudalur—Vayitri—Calicut Road, (55 miles).
Mangalore—Mercara Road, (65 miles).
Hospet—Mysore Frontier Road, (55 miles).
Satyamangalam—Kollegal—Mysore Frontier Road, (66 miles.)

London Hospital.

We have received the following letter from the Viscount Knutsford :—

"I wonder if I could persuade you to help me. This grand old "hospital, the largest in England, of which Queen Alexandra is "President, is really in desperate straits, and I must find new "friends to help it, that is the one and only cure. I do not know "why you should—I only write in the hope that you may.

Yours faithfully,
(Signed) KNUTSFORD.

"P.S.—Is a whip round possible among your friends or staff ?"

A statement of reasons for asking and giving attached to this letter shows that the hospital is in debt, for the first time for years, to the extent of £75,000. We shall be very glad to receive and acknowledge any donations which our readers may care to make, and forward them to the proper quarter.

AN AGRICULTURAL PUBLICATION.

From the Publicity Bureau.

A note-book of Agricultural facts and figures by Mr. R. C Wood. Revised and reprinted 1920. (Price one rupee).

Not only the revenue officer, but also the unofficial student of economics, is under an obligation to acquaint himself with the facts of rural economy in the different districts of the Presidency in which he may from time to time find himself. Such investigators will find Mr. Wood's note-book invaluable as a help.

Mr. Wood's book gives the more important weights and measures in use in the different districts of the Presidency, an account of the mechanical appliances used by ryots, (piccottahs, carts, &c.) and the amount of work they will do. Useful irrigation *formulæ*, showing the duty of water and the quantity required for different crops are also supplied. There is a section on Labour, showing the number of coolies required for each important agricultural operation, harvesting, transplanting, well-digging, &c.

There follows a note on the value of different manures, a note on each of the more important agricultural crops, and a note on the rations required to keep cattle in good condition. Next there are notes and figures about cattle, their breeding, rearing and feeding, their diseases, and the approximate treatment and medicines.

Then comes a note on the common insect pests of the Presidency. Then a note on gardens and topes, and timber trees.

A study of the note-book will save investigators many hours of preliminary enquiries into the A. B. C. of their subject, and will enable them to get on rapidly to the more advanced and more difficult questions, and to understand better the bearing of the answers given to them. At the same time it supplies them with useful data, by which they can check the accuracy of each of their informants and make allowance for the personal equation.

The book is a mine of agricultural information, and any Assistant Collector who wishes to astonish his Collector has only to get and read it.

Copies of this book are for sale at the Publicity Bureau, Victoria Buildings, Egmore, Madras, and at the Government Press, Mount Road, Madras.

RUBBER TRADE ASSOCIATION OF LONDON.

Monthly Statistics.

MARCH, 1920.

Movements of all kinds of Rubber to and from the United Kingdom as per BOARD OF TRADE RETURNS.

IMPORTS.

From	February.			2 Months ended February.		
	1920.	1919.	1913.	1920.	1919.	1913.
Straits Settlements and F. M. S. ...	6,165	2,476	1,834	9,505	5,389	3,640
Ceylon and British India ...	2,379	1,980	647	5,252	4,005	1,250
Dutch East Indies &c. ...	929	434	70	1,758	519	159
Brazil and Peru ...	2	996	1,909	428	1,810	3,923
Other Countries ...	171	198	1,841	392	570	3,320
Total Tons...	9,646	6,084	6,301	17,335	12,293	12,292

EXPORTS.

To	February.			2 Months ended Feb.		
	1920.	1919.	1913.	1920.	1919.	1913.
United States of America ...	3,398	1,806	1,182	9,023	1,816	2,627
Canada ...	285	21	47	934	21	50
France ...	804	851	326	1,858	1,888	708
Belgium ...	321	28	146	537	28	296
Italy ...	250	311	14	386	1,139	42
Spain ...	3	2	9	17	3	15
Germany, Austria, Hungary ...	101	...	944	354	...	1,769
Russia ...	15	...	606	19	...	1,273
Swdeen. Norway and Denmark ..	90	178	32	148	254	103
Other Countries in Europe ...	38	4	115	121	5	218
Other Extra European Countries..	62	30	67	169	54	91
Total Tons...	5,367	3,231	3,488	13,566	5,208	7,192

LANDINGS, DELIVERIES and STOCKS in London and Liverpool as returned by the Warehouses and Wharves during the month of February.

		Landed for Feb.	Delivered for Feb.	Stocks 29th February. 1920.	1919.	1918.
LONDON ...	Plantation ...	6,878	7,802	19,606	14,652	13,377
	Other Grades ...	2	49	523	423	410
LIVERPOOL...	Plantation ...	439†	470†	1,480†	1,900*	3,300*
	Para & Peruvian..	...	410	110	1,100	574
	Other Grades ...	...	6	377	599	594
Totals London & Liverpool...		7,319	8,737	22,096	18,674	18,255

† Official Returns from the five recognised Public Warehouses.
* Estimated.

Movements of all kinds of Rubber, excluding Gutta, Balata and Guayule, to and from the U. S. A., AS PER RETURNS OF THE UNITED STATES DEPARTMENT OF COMMERCE.

	December.			12 Months ended December.		
	1919.	1918.	1917.	1919.	1918.	1917.
IMPORTS ...	24,751	6,485	10,407	239,259	145,517	181,088
EXPORTS ...	423	23	472	2,282	2,745	4,000

RECEIPTS AT PARA.

	February.			July/February (8 Months),		
	1920.	1919.	1918.	1919/20.	1918/19.	1917/18.
Rubber ...	3,060	3,970	2,650	19,340	16,893	18,614
Caucho ...	620	540	650	3,790	3,142	5,056
Total...	3,680	4,510	3,300	23,130	20,035	23,670

HOOKWORM DISEASE.

Its effects upon the people, and the benefits resulting from its treatment.

An investigation made at Negapatam, in which ten thousand persons were examined for hookworm infection, disclosed that up to 98 per cent were infected. The people examined represented practically all of the districts of the Madras Presidency. This is not unusual, and corresponds very closely with results of investigations in other parts of the world. It demonstrates that hookworm disease is widely and heavily spread; that millions of people are suffering from a disease that may be greatly reduced; that the economic loss resultant upon this disease is tremendous. During 1918 one organization treated 201 355 people for hookworm disease. The task is not as great as one may think, provided it is taken up in a systematic way.

Effects of the disease.—Aside from the usual symptoms and signs of illness, hookworm disease has a very serious effect upon those harbouring these parasites. This disease, unlike small-pox, plague or cholera, is not spectacular in its advent, but quietly and subtly comes upon a people, even without their conscious appreciation. It produces mental deficiency, physical decay, poverty and economic inefficiency. The birth-rate is lessened, and the death-rate is increased; other diseases are fostered by the decrease of individual resistance and vitality dependent upon hookworm infection. *It cannot be gainsaid that a sick person is a liability to the family, the community, the State.* A great many people are so lightly infected by the parasites that they do not realize any actual depreciation in health or physical status. These mildly infected cases demand careful attention. They are the unconscious carriers of the disease, and may serve to maintain the great incidence of hookworm disease.

Hookworm disease saps the strength by such imperceptible stages that usually the patient himself does not sense the change in his physical condition from day to day, until his powers of resistance eventually become so lowered that the germs of tuberculosis, or of some acute infectious disease, find favourable lodgment, and all too frequently a fatal outcome results.

The 1918 influenza epidemic in Ceylon showed that on all the estates embraced within the Maskeliya area, with a total labouring population of 17,838, the death-rate from influenza and its *sequelæ* was twice as high among persons who had not been treated for hookworm disease as among those who had received treatment. In army records it was indicated that resistance to disease was lowest, and the mortality rates were highest, among the organizations in which hookworm disease was most prevalent.

Without doubt hookworm disease has a deterrent effect upon the birth-rate. Sterility, impotence, reduced frequency of conception may result from hookworm infection. One of the most startling effects of this malady is that upon the development of children. During 1918, a thorough investigation was made of the mental retardation due to hookworm infection among the school children of Queensland, Australia. Three hundred and forty children, between the ages of six and fourteen years, were selected. As far as possible, effort was made to obtain a fair representation of the 5,000 or more school children residing within the area investigated. The children were classified into three groups: (1) non-infected, (2) lightly

infected, (3) heavily infected. Lightly infected cases had, on the average, a retardation of 9·3 months in their mental development, as measured by the Simon-Binet method. The heavily infected group showed a mental retardation of 23·4 months. The longer the infection had persisted in the child, the greater was the effect upon the mental progress. In extreme cases of infection, a retardation of mental development to the extent of five years was recorded.

The retardation of mental development as a result of hookworm disease is not only discernible in children, but has been plainly noted in the adult. Army records, covering ten thousand troops, showed that the mentality of white men with hookworm disease was about one-third below the mentality of those not affected by the disease. In one women's college in an infected area, the average standing of 56 students infected with hookworm disease was 78 per cent, whereas 56 students, free from infection, averaged 89 per cent. Teachers, everywhere, are practically unanimous in reporting that the treatment of infected pupils results, not only in marked gains in weight and physical appearance, but a decided improvement in zeal and intelligence is noted.

Results of treatment.—As noted above, there is marked improvement in mental progress after treatment for hookworm disease. Of 99 Siamese soldiers suffering from hookworm disease, 69 were given one treatment, the other 30 received no treatment. The treated men gained an average of 10·6 pounds in weight over a period of one year, while the untreated increased on the average, 1·1 pounds during the same period. On seven tea estates in Ceylon there was a decrease of 1,132 sickness calls, or 44 per cent for four months of 1917 following treatment of the labourers for hookworm disease, as compared with the same four months of 1916, before the labourers had been treated for the disease. The investigations conducted by Lieut.-Col. Clayton Lane in the Darjeeling district showed that treatment resulted in a noticeable improvement in health and efficiency of labour. In one instance there was a reduction of 70 per cent in the labour absenteeism.

Wherever treatment is carried out over large areas, the birth-rate is stimulated in a marked degree. Among the coffee cultivators of Costa Rica, it was found that the treatment of hookworm disease resulted in a net monthly increase in wages of 27 per cent. after allowing for a 15 per cent: reduction in unit pay. In the Darjeeling investigation, it was shown that the output of work was increased 20 per cent. on one estate, and 50 per cent on another, after hookworm treatment had been carried out.

From this brief resume, it will be noted that hookworm disease is a real menace; that its ill-effects are physical, mental and economic; that the treatment of this disease results in marked benefits to the individual, to the community, and to the State.

The conduct of campaigns against hookworm disease is not difficult if carried on in a systematic manner. There are three important phases to work: Education and publicity to gain the co-operation of the people, and to impress upon them the importance of the project; treatment of the infected; prevention of re-infection by cessation of soil pollution by means of sanitation.

The Surgeon-General with the Government of Madras, through the Anti-Hookworm Campaign, is ready to advise those organizations who may desire to undertake the systematic control of the disease.—*Issued by the Publicity Bureau.*

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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THE BREACH OF CONTRACT ACT.

We are indebted to the Indian Tea Association for a copy of the Act amending the Workmen's Breach of Contract Act. As we surmised in our last article on the subject two months ago, the new Act differs but very little from the draft proposals which have already appeared in these pages, but we have thought it advisable to reprint the complete Act, so that planters who are working under it may know exactly where they stand.

Our space this week is very fully occupied with minutes of Association Meetings, in fact, we have to apologise to the Secretary of the Nilgiri Planters' Association for our inability to include the minutes of that Association's meeting of 29th April. We are, therefore, unable to go into the new act at such length as we could wish. We cannot refrain however from commenting upon the fact that the Stationary Sub-Magistrate at Pollachi has recently refused to issue warrants, on the following grounds:—

(1.) That action cannot be taken if complaints are presented after three months from the date of default, and

(2.) That the complaints related to advances of more than Rs. 300.

Now, there is nothing in the new Act which provides for its application in the case of contracts which were executed prior to its promulgation, that is, under Act XIII of 1859. In other words the amending act is not definitely stated to be retrospective, and, it is a moot point whether the Magistrate is correct in throwing out complaints in this way. We are glad to learn that the question has been referred to the Government Advocate. Until the result of that reference is known, it would perhaps be premature to express an opinion, but we may draw attention to the opinion of the U. P. A. S. I. Solicitors, which is that the act would not be retrospective, and would not affect contracts entered into before Act XII of 1920 was passed.

THE SCIENTIFIC DEPARTMENT, U. P. A. S. I.

Rubber in South Travancore.

This is the last of the articles left with us by Mr. Anstead, before he went on leave, for publication in the *Chronicle*. (Ed—P. C.)

The second Rubber Experiment Station is to be situated in South Travancore, on a site near Tenmalai Railway Station by the side of the main road leading from Quilon to Shencotta and Trivandrum.

The details of the site were decided upon too late to enable a beginning to be made with the necessary buildings till after the monsoon last year. Work is now proceeding on them, and it is hoped to have them shortly completed, so that the Station may be got into order ready for actual work to start after the monsoon this year.

Meanwhile, the Farm Manager, who will be placed in charge of the Station, was appointed and sent for training to a neighbouring Rubber Estate. We have just received his annual report, which is of such interest that we think the following digest of it may be of general interest, as showing the conditions of rubber planting in that part of South India in which it has been decided to place the second Rubber Experiment Station.

The season has been an exceptionally wet one, 126·66 inches of rain having fallen, as compared with an average of about 100 inches.

Tapping began in the middle of April, after the trees had been rested from 1st February to regain their foliage after the normal leaf-fall. The system adopted is daily tapping on one cut on a third. The estate consists of 630 acres in bearing of 10 to 15 year old trees. There were 280 tapping days in 1919, as compared with 274 in 1918, and 16 days so wet that no tapping could be done. The tapping average was 2·82 lbs. dry rubber per cooly, as compared with 2·98 lbs. in 1918. The average yield was 215·77 lbs. of dry rubber per acre. The following table shows the percentage of crop each month, with reference to the percentage of the annual rainfall each month.

	Percentage of crop.	Percentage of rainfall.
January	9·34	1·96
February }		
March }	...	4·86
April	3·23	1·86
May	10·75	9·34
June	7·67	20.91
July	12·21	15·90
August	10·40	14·00
September	11·40	7·74
October	11·30	10·64
November	11·20	8·22
December	12·50	4·55

In a 9½ months' tapping season, if the crop was equally distributed, 10·5 % would be obtained each month, and, it is very striking that in the above table the only months which fall much from this are April, when only half a month's tapping is done, June when the rainfall is very heavy, and January, as the dry weather and the normal leaf-fall sets in. The abnormal leaf-fall due to *Phytophthora Meadii* took place from June to September, and it is reported that some trees were entirely defoliated and remained so till the following February. This appears to have had less effect upon the

crop than would have been expected, though the fall in August may be due to this.

The cost of tapping is being annually reduced in South India. Thus, here we have the following record:—

	Tapping cost per lb. dry rubber. Cents.
1914	35·84
1915	19·15
1916	14·67
1917	14·95
1918	13·57
1919	13·26

An experiment was tried to compare the yield from 2 cuts on a quarter section, 12 inches apart, with one cut on a quarter, daily tapping. The result bears out other experiments of this nature. For a month the two cuts gave 50% more yield, then the yield gradually fell, till at last the top cut ceased to yield at all.

A pest gang of 25 coolies is maintained, and every tree on the estate is examined and attended to twice a year. Three to four per cent. of Brown Bast was found. The scraping method was adopted, the scraped surface being painted with 10% Brunolinum. Renewal is reported to be good, and trees opened at the second round appeared to be cured.

Bark Rot (Line Canker) due to *Phytophthora Meadii* is an important disease in the district, as would be expected seeing that abnormal leaf-fall is bad.

Manuring is being done. A mixture of fish guano, bone meal, and castor cake is applied at the rate of 7 lbs. per tree every other year, broad-casted and forked in. This mixture costs Rs. 150 per ton. In the alternate year Lime is applied, at the rate of 700 lbs. per acre. Green manures are also established, and catch-pits and terraces used to prevent soil erosion. The green dressing used is *Tephrosia candida* (Boga Medeloa) which makes a good cover, and it is lopped three or four times a year.

This account of local conditions will be of interest when the Station work is begun, and it will be seen that there is scope for a number of experiments in the Station.

(Signed) RUDOLPH. D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

23—4—20.

CENTRAL TRAVANCORE PLANTERS' ASSOCIATION.

Minutes of the Annual General Meeting, held at Munjamallay Factory at 10 a. m., on Saturday, May 1st, 1920.

PRESENT.—Messrs. J. S. Wilkie, E. C. Sylvester, J. F. Fraser, J. H. Cantlay, G. S. Napier Ford, W. A. Asher, R. L. G. Goldsmith, A. W. Turner, W. Glennie, G. F. Meager, C. Patterson, J. D. Deane Drummond, (representing Arnakal), R. E. Haslam (by proxy) and W. A. J. Milner (Honorary Secretary).

1. Minutes of last General Meeting were taken as read, and confirmed.
2. Minutes of Committee Meeting of 22-2-20 were read and confirmed.

3. CHAIRMAN'S REMARKS. Mr. Wilkie said:—

"Gentlemen,—According to the Agenda, I am expected to give you an address. I am glad to say, however, that this is not necessary, as the Honorary Secretary's report deals with all matters affecting our interests and industry during the past year, there is little for me to refer to.

At our last Annual General Meeting, our then Chairman, Mr. McArthur, expressed the hope that during the year we would be able to welcome back many of those who had left our district to serve their country. This hope has been largely realised, and I feel sure we all extend to them a very hearty welcome. To those of the district who have given their lives for their country, it is proposed to raise a memorial, in commemoration, and during this meeting some proposals will be laid before you.

With regard to the past season, although the rise in exchange has been to a certain extent counterbalanced by higher prices, yet increased cost of production, including loss on rice—which I imagine few of us can put under 3 cents per lb—leaves a very small margin of profit. We now hear of a suggestion to hold back teas until the present congestion at home is relieved, this does not sound promising, altogether the future outlook is obscure.

The S. I. Planters' Benevolent Fund calls for reference; we may, I think, congratulate ourselves on having done our fair share, but perhaps we can do better. I would simply draw the attention of all members to the fund, and impress upon them that it merits the utmost support we can give it.

Our Honorary Secretary, Mr. Milner, has drawn up a book of rules, which embodies information with reference to local matters, rates and Government regulations, &c., affecting our estates. This, as you will understand, necessitated considerable time and trouble, and our thanks are due to him for a book which is bound to be of great interest to every planter in the district.

I think, gentlemen, there is nothing more to which I need refer. To the Committee I tender my thanks for their support, and to our Hon. Secretary I wish to express my appreciation of the trouble he has taken, his work throughout the year has been considerable. I now tender my resignation."

4. The Honorary Secretary's Report was as follows:—

MR. CHAIRMAN & GENTLEMEN:—

MEETINGS.—During the 15 months under report, the usual year ending December 31st being extended to March 31st to coincide with U. P. A. S. I. year, there have been 4 General Meetings and 2 Committee Meetings.

MEMBERSHIP.—This Association consists of 26 estates, with a planted acreage of 13659·26 acres in tea, in rubber of 155 acres, and in cardamoms of 35 acres as per the 4th quarter's U. P. A. S. I. cess.

CROP.—The tea crop for the calendar year, 1919, amounted to 7,334,239 lbs. on a mature acreage of 12746·12 acres, or 575 lbs. per acre, against 6,944,085 lbs last year. The crop for the whole district can only be roughly estimated, but must be quite 8¾ millions, and the total acreage under tea at least 17,000. About 1,500 acres are owned and worked by Travancoreans.

HELOPELTIS has unfortunately been on the increase all over the district, and has checked yields considerably. Manuring, it is possible, may bring the bushes into a condition to resist the pest, but this remains to be proved. A letter from Mr. Anstead, advising a special manuring experiment for helopeltis, was circulated to all members during the year.

THE EXPERIMENTAL STATION ON STAGBROOK.—This was started last year, and Messrs. Wood, Anstead and Norris paid it a visit in October, and laid down a programme of work (also published in P. C.)

COST OF PRODUCTION.—Estates working for 5¼ as per. lb. f. o. b. are o be considered lucky. This, with the present market price of 1*s.* 4*d.* which, deducting 4*d.* for freight and home charges, is only equal to 7 as. f.o.b. at 2/4 exchange, does not leave much margin of profit. Labour is bound to cost us more in the future, so that, unless the market keeps up and exchange goes down, our immediate prospects are none too bright.

LABOUR.—During the year has, perhaps, been just sufficient for our needs on most estates, but with large new extensions in view in the future, it looks as if this will not long continue to be the case, and competition is going to be very severe. The Labour Department has done its best under difficult circumstances, but must have been much handicapped by being under-staffed. The death of Mr. C. S. Prince is a great loss to the Department.

TIMBER VALUES.—This has been the most prominent matter of local interest taken up during the year. A conference was held at Trivandrum on the 27th March, when the Dewan fully discussed the question with Messrs. Mackie, Sylvester and myself, and we now await Government's final written proposals.

It might not be out of place here to refer to the impression—quite an erroneous one—which Government (and the general public) seem to have of the vast profits to be made out of tea, and that the industry is well able to bear such heavy taxes as 1/- per acre land tax, 1/8 per 100 lbs. export duty on tea (equal to about 5/- per acre) as well as this proposed timber tax. The bad times Peermade has been through are apt to be entirely overlooked, although it is not so very long ago since our teas were selling at 5d and 6d a lb., and many estates were just covering expenditure. The prices at which the Food Controller bought our teas were little better, and we are now very hardly hit indeed by the heavy loss in exchange and the high cost of rice, on which all estates are losing from 5/- to 8/- a bag, as rice is still issued to coolies at the old rate of 11/- a bag. I trust that the Travancore Government will realise the true state of affairs, and that we shall not be given any cause to fear that we "are going to be taxed out of existence."

PAMBANAR ARRACK SHOP.—I understand that a proposal is now before Government to amalgamate the Arudai and Pambanar shops, and, if Government sanction this proposal, we shall be very grateful.

CHEENTHALAAR-KALLAR ROAD.—The investigation of this is proceeding, but will take at least another year to complete, as no special whole-time officer is deputed for it.

DISTRICT ROADS.—Our Sri Mulam delegate asked for extra grants for these, and I am glad to say that Government have sanctioned that the first 3 miles of C. H. road be allowed 250/- a mile instead of 187/- as hitherto, and that the remaining 2½ miles get Rs. 200. For the Glenmary Road, the first mile is allotted 250/- a mile, 3 miles receive 180/- as before, and the last 1½ miles gets 250/- per mile.

RICE.—The supply and transport of this has been a great anxiety throughout the year. Our thanks are due to the Director of Civil Supplies, Madras, and to Mr. Cunningham, particularly the latter, for all they have done for us, but we trust that next year will see all restrictions on the import of Kumbum rice removed, which will greatly ease the situation.

TRANSPORT has never been so difficult as last year, and the want of further motor transport and of the Ropeway has never been more keenly felt. It is hoped the Travancore Government will recognise this, and put all roads in planting districts in motoring order in the near future,

ACCOUNTS—These were kindly audited by Mr. Goldsmith. Printed copies of them are in your hands.

1920—21 CESS.—A cess of 3½ annas per acre should cover all our own 1920—21 expenditure.

C. T. P. A. CLERK'S SALARY.—The allowance for this is only Rs. 15 a month, and I ask the meeting to consider raising this to Rs. 20 or Rs. 25 a month, in view of the increased work of recent years.

OLD C. T. P. A RECORDS.—These were gone through during 1919, most of them were hopelessly ant-eaten, and all useless old records destroyed. The Old C. T. P. A. book was also revised during the year, as well as the District Labour Rules, and copies of each sent to every member.

This, gentlemen, concludes my report. I have to thank the Chairman and Committee for their great assistance and support, and I now place my resignation in your hands."

Proposed from the Chair:—That the Secretary's report be adopted. This was carried unanimously.

Mr. Cantlay enquired if it was necessary for any one visiting the Tea Experimental Station to get previous permission from the Superintendent of Stagbrook estate. It was thought, however, that it should only be necessary to inform the Farm manager direct.

5. ACCOUNTS.—Mr. Sylvester proposed that these, as audited by Mr. Goldsmith, be passed. Seconded by Mr. Asher and carried.

6. CORRESPONDENCE.—

(*a*) Read and recorded letter from S. I. Ry. *re* conditions on which tea would be accepted at Railway Risk by the railway.

(*b*) Read letter from the Postmaster-General, dated 16-4-20, *re* Bonami Post and Telegraph Office.

It was decided on Mr. Asher's suggestion that, as soon as the amount of guarantee was known, a meeting of all those interested should be called.

(*c*) Read letter from the Tahsildar *re* Bonami market, and the Honorary Secretary was instructed to reply asking the Tahsildar to see Mr. Fraser personally on the matter.

(*d*) Read letter from Mr. J. Mackie regarding Mr. P. J. John's representing our interests at the meetings of Travancore Legislative Council, held during Mr. Mackie's absence on furlough. This was approved.

(*e*) Read letter from Mundakayam P. A. *re* cooly chattram at 17th mile. It was felt that this was not necessary as far as this Association is concerned.

(*f*) Read letter from Commissioner, Devicolam, *re* arms and ammunitions license. Mr. Asher proposed that the Honorary Secretary write in suggesting that, if desired, one license should be issued for the whole of Travancore, to avoid separate licenses having to be taken out for different districts.

This was seconded by Mr. Sylvester and carried.

7. ELEPHANTS.—Mr. Sylvester proposed:—"That the attention of Government be drawn to the damage done on estates by wild elephants, and that it be asked to take steps to drive them away, either by authorising pits to be dug at Government expense, or by issuing licenses for their destruction."

Seconded by Mr. Ford and carried.

The Honorary Secretary was to point out in his covering letter that, though under the present regulations persons killing or wounding wild elephants in defence of person or property are exempt from the usual

penalties, the proviso that " no more harm than is necessary for the purpose of defence be caused " unfortunately makes the law most ambiguous.

8. PLANTERS' HALL (for P. A. Meetings).—It being the feeling of the meeting that this was necessary, and that a central site for this would be at or near Pambanar, Mr. Sylvester proposed and Mr. Cantlay seconded, " that a Committee consisting of Messrs. Wilkie, Sylvester and Deane Drummond be formed to go into the matter and draw up estimates for submission to the next meeting." Carried.

9. U. P. A. S. I. DELEGATES' EXPENSES.—It was pointed out that the previous allowance of 150/- per delegate for this entailed delegates to the Annual Meeting being considerably out of pocket, and it was decided to raise the amount to 300/- (car hire 100, rail fare 100, and 10 days' " batta" 100) for each delegate, an increase of only ½ anna per acre in the local cess being necessary to cover this.

10. TRAVANCORE COMBINED P.A.—Read letter from this Association, dated 23—3—20, and the Honorary Secretary was instructed to reply :—

(1) Assenting to passing of accounts.
(2) ,, signing minutes of last meeting.
(3) Nominating Mr. J. R. Vincent, Chairman.
(4) ,, Mr. J. J. Murphy, Vice-Chairman.
(5) ,, Mr. Lampard, Honorary Secretary.
(6) Sending 1920 subscription.

11 S. I. P. BENEVOLENT FUND.—The attention of the meeting was drawn to the Secretary, U. P. A. S. I.'s circular *re* this.

12. TIMBER VALUES.—Mr. Sylvester informed the meeting of what took place at the conference at Trivandrum on 27th March, when the question was fully discussed with the Dewan.

A vote of thanks to Messrs. Sylvester and Milner for attending the conference was carried.

13. PAMBANAR ARRACK.—The Excise Commissioner's letter of 21—4—20 was read and recorded with satisfaction.

14. WAR MEMORIAL.—Proposed by Mr. Goldsmith and seconded by Mr. Wilkie : —" That the committee be authorised to arrange for the erection of a suitable tablet in the Church as soon as possible, leaving the question of the stained glass window over for the present." Carried.

15. SRI MULAM DELEGATES' REPORT.—This was read and recorded

Proposed by Mr. Fraser and seconded by Mr. Sylvester :—" That a hearty vote of thanks be accorded to Mr. Goldsmith for his successful representation." Carried with applause.

16. DISTRICT ROADS AND ROADS.—Proposed from the Chair :—" That the road cess be increased to equal the increase granted by Government, as detailed in Chief Secretary's letter of 8—2—20."

Seconded by Mr. Sylvester, and carried.

As regards the K—K road, the Chief Engineer's attention was to be drawn to the bad state of miles 63 - 70, 35, 36 & 37 & 40, 41 & 42.

In respect to the road from Kumbum to Kuruvanuth, it was proposed by Mr. Ford, and seconded by Mr. Cantlay :—" That the Hon. Secretary address the Madura District Board pointing out that, as a toll has now been put on at Kuruvanuth, the necessary repairs to the road should be undertaken at once." Carried.

The Honorary Secretary was also to ask the Chief Engineer as to what Government's intentions are regarding Kumili-Arladi teak road. whether it is proposed to turn it into a Government road, and pointing out that all the land on both sides has been taken up for cultivation.

17. LABOUR DEPARTMENT AND RATES FOR MEN.—The correspondence *re* rates was read, and the whole subject fully discussed. It was finally proposed by Mr. Cantlay, and seconded by Mr. Asher :—"That the seven anna rate be left to the discretion of the Superintendent, and that any further increase be referred to the Association."—Carried.

18. 1920-21 CESS.—Proposed from the Chair, "That the 1920-21 local cess be 3½ annas per acre," and carried.

The Honorary Secretary was to be allowed to pay up to Rs. 25 a month as clerk's salary.

19. ELECTION OF OFFICE-BEARERS.—
Chairman.—Mr. E. C. Sylvester.
Vice-Chairman.—Col. Deane Drummond (representing Arnakal).
Committee.—Mr. J. S. Wilkie.
,, J. F. Fraser.
,, J. H. Cantlay
,, C. S. N. Ford.
Honorary Secretary.—Mr. W. A. J. Milner.

20. OTHER BUSINESS.—The date of next general meeting was to be about July 17th or 24th, but would depend on when the U. P. A. S. I. agenda was received.

A very hearty vote of thanks to Messrs. J. S. Wilkie and W. A. J. Milner, for the very great interest they have taken in the Association's work during last year, was carried with applause, and the meeting then terminated.

(Signed) J. S. WILKIE,
Chairman.

(Signed) W. A. J. MILNER,
Honorary Secretary.

ANAMALLAI PLANTERS' ASSOCIATION.

Minutes of the Fifteenth Annual General Meeting of the Anamallai Planters' Association, held at the Anamallai Club, at 10-00 a. m., on Thursday, the 22nd April, 1920.

PRESENT.—Messrs. C. R. T. Congreve, (Chairman), E. W. Simcock, J. A. R. Lloyd, D. Cooper, J. H. Ireland-Jones, E. Hardy, C. K. Pittock, Captain E. Johnson, Messrs. A. C. Cotton, C. Fraser, F. Simmons, J. E. Carless, S. Sladden, Dr. Murray, Messrs. Danagher, Napier, Captain Bowmas, and J. E. Sampson, (Honorary Secretary).

BY PROXY.—Mr. S. C. Biddell.

VISITORS.—Messrs. E. Vincent and M. A. Eaton, of the Labour Department, and Mr. J. E. Hefflebower.

MINUTES.—The Minutes of the following Meetings were taken as read, and confirmed :—

1, Extraordinary General Meeting, held on the 23rd February, 1920.

2. Extraordinary Meeting of General Committee, held on 27th February, 1920, and
3. Extraordinary Meeting of General Committee, held on 19th March, 1920.

ELECTION OF MEMBERS:—The following were unanimously elected Members of the Association:—

Dr. Murray, (Honorary Member), proposed by Mr. Fraser, and seconded by Mr. Simmons.

Mr. Danagher, proposed by Mr. Cotton, and seconded by Mr. Congreve.

Mr. Napier, proposed by Mr. Congreve, and seconded by Mr. Sampson.

Captain Bownas, (Honorary Member), proposed by Mr. Frazer, and seconded by Captain Johnson.

Mr. Maule, proposed by Mr. Simmons, and seconded by Mr. Carless.

Mr. Sullivan, proposed by Mr. Fraser, and seconded by Mr. Simmons.

Captain Mills, proposed by Mr. Carless, and seconded by Mr. Pittock.

Mr. Hope, proposed by Mr. Carless, and seconded by Mr. Fraser.

CHAIRMAN'S ADDRESS.—Gentlemen:—Although it is usual for your Chairman to address you each year, at the Annual Meeting, I feel some diffidence in doing so, as I have held that position for so short a time. We suffered a very great loss during the year under review, through the untimely death of Mr. Scott, who died in October last. For the second year in succession, he was elected our Chairman, and by his death we have lost a man who could be ill-spared from our councils. As a practical planter he was second to none, and the Sholayar Estate is a fine example of what whole-hearted devotion to duty can achieve.

Mr. Robinson, who took on the duties of Chairman in October, resigned in February, as he is going Home on leave. I feel sure you will join me in wishing him *bon voyage*, a good holiday, and safe return to the District.

Turning to the chief events of the year, the most important matter before this District, and one which, in my opinion, calls for most thought, is the matter of communications with the outer world.

When the present Ghaut Road was constructed, it was not anticipated that the District would develop in the remarkable way it has done. As you all know the late Dewan of Cochin, approached us some years ago with a view to making an extension of the Cochin Forest Tramway into the middle of the District, and we were in hopes that this scheme would be carried through, and that by this year we should have been in direct communication with Cochin Harbour. Unfortunately, owing to unforeseen circumstances, nothing has been done; and, although there is, I hope, every possibility of our eventually having either a tramway or railway out to Cochin, from what we can at present understand, there is no chance of construction being completed for at least another four years, if not longer. We had the honour of a visit from Col. Barnardiston and party to the District, a short time ago, and the difficulties of making such a railway as we all want were pointed out. Now, it appears to me, gentlemen, that, whilst in no way abandoning the idea of this railway, the time has come for us to try and find some alternative scheme for the transport of our goods into and out of the District. Even at present, the Ghaut Road is inadequate for our needs, and when, in a few years' time, our acreage in bearing is doubled, unless we have some other means of getting our produce out we are likely to be left in a very serious position. The Hon. Mr. J. A. Richardson very kindly offered to ask Messrs Bullivants' Engineer, who has come out to

this country in connection with the Peermade Ropeway, to visit us here and make a rough survey of the possibilities of a suitable ropeway out of the District. On your behalf, I accepted his offer, and hope we shall see Messrs. Ballivants' Engineer in the District before long. The thanks of this Association are due to Mr. Richardson for his kind offer, and for the work he has done for us in connection with the railway to Cochin. I cannot too strongly impress upon you the importance of deciding as to whether a ropeway will be the best means of solving this problem of our transport, or, whether it will not be best to construct either a new road, or to so alter the present one, as to allow of the use of motor transport.

Another matter which calls for your urgent attention is the construction of a central bazaar for the District. This matter has been before us for several years, but, as yet, nothing has been done; and, in my opinion, until something is actually done, we cannot expect this District to be as popular with our labour as we should like to see it,

We have, most of us, suffered from an insufficiency of labour during the season under review, and, after considerable deliberation, it was finally decided to raise the rates of pay of coolies, and to give them considerable concessions. I hope we shall find the results justify the expenditure, and that we shall have a sufficiency of labour in the coming season. Before closing, I should like to thank your Honorary Secretary for the work he has done for us during the time he has held office. Coming forward at the Half-Yearly Meeting, he has done his work in a manner which leaves nothing to be desired, and, I can assure you, gentlemen, in these days the office of Honorary Secretary is no sinecure, but entails a great deal of hard work. I should like to impress upon you all the necessity of helping whoever holds this office in every way you can, by answering letters and giving statistics asked for with as little delay as possible. You may be quite sure the Honorary Secretary will not ask for unnecessary trouble on your part; but if members of the Association do not whole-heartedly help in every way, the position will become untenable, and we none of us want this to happen.

As we have a long agenda to get through, I will not detain you more but will now place my resignation in your hands.

HONORARY SECRETARY'S REPORT.—Mr. Chairman and Gentlemen:—I beg to lay before you my report on the working of the Association for the past fifteen months. As you are aware, Mr. Congreve, much to the regret of us all, found that he was unable to continue as your Honorary Secretary after the Half-Yearly Meeting held in July last. The Association accounts were duly audited and found correct, before I took charge of them.

MEMBERSHIP:—There are now 32 estates on the Association register, and 30 subscribing members, one subscription remaining unpaid. During the period, the Association has had to lament the death of Mr. J. E. Scott, our Chairman for more than 18 months, and one whose opinion we all greatly valued.

MEETINGS.—There have been 10 General Meetings, and 10 Committee Meetings, all of which have been well attended.

ACREAGE:—The acreages of the products are as follows:—

Tea	...	...	10,875¾
Rubber	...	...	1,071
Coffee	...	...	4,217
Cinchona	...	...	491½
and Cardamoms	...	...	2,404¾
		a total of	19,060

CROPS. The crops harvested during the year, 1st July 1918 to 30th June 1919, were as follows :—

Tea	...	...	1,806,499½ lbs.
Rubber	...	...	47,862 ,,
Cardamoms	...	...	299,170 ,,
and Coffee	...	...	555 tons,

and for the nine months following, (*i e.*, 1st July 1919 to the end of the period under discussion) :—

Tea	...	...	1,864,959 lbs.
Rubber	...	...	61,397 ,,
Cardamoms	...	...	330,510 ,,
Cinchona	...	...	90,000 ,,
and Coffee	...	...	151 tons.

ROADS AND COMMUNICATIONS.—With regard to the Cochin Railway, it is to be regretted that this matter is little or no more forward than at our last Annual Meeting. During the past month, however, the General Committee had the pleasure of meeting and entertaining a party of very influential gentlemen, and one can only hope that the scheme will be helped forward as a result.

Our Ghaut Road continues to get worse. The Association has approached Government with a view to taking over the maintenance of this, on certain conditions, but no reply has been received.

A proposed alternative to the Cochin Railway, in the shape of a Ropeway, is on the agenda for discussion at this Meeting.

TOWNSHIP.—This, also, has not greatly progressed. Lately, the Association approached the Pollachi Taluk Board, requesting permission to erect buildings thereon, for the purpose of holding weekly shandies. The Board's reply will come up for discussion later. During the year, the only addition to the Township has been a Wesleyan Church.

POSTS AND TELEGRAPHS.—The District has had reason to complain more than once of the bad service, and, at times, lack of service. Now, thanks largely to a very pushing Superintendent of Post Offices, Mr. Stewart Nelson, we are supplied with a regular service of tapal bandies; and letters and parcels are delivered with greater regularity than previously. We now understand that the Superintendent of Post Offices, Nilgiri Division, is negotiating for a motor car service between Pollachi and Valparai.

There is, however, much room for improvement. The buildings at the Valparai Post Office are totally inadequate for the work entailed in, and the staff necessary for, such a busy office.

The need is also felt of Post Offices at Mukottu Mudi and Kalianapandal, and the Planting Member of Council has already approached the Postmaster-General on the subject.

The Association has lately applied to be connected to Coimbatore by telephone, and we await further information from the Superintendent of Telegraph Engineering.

PLANTERS' BENEVOLENT FUND.—There are now four patrons of this very deserving fund in the District, one more member having completed payment during the year. In addition, 26 gentlemen have paid their annual subscription of Rs. 10, including 5, who have still to be elected members of the Association.

This subject has been on the agenda of several of our meetings during the past few months, and I had hoped that it would be possible to report that the entire District was subscribing. In my opinion, to belong to this fund is a duty we each, individually, owe to the Planting Community. None can

see far enough ahead to know definitely that he may not be glad of assistance from the fund in the future; in which case the payment of Rs. 10 annually is an easy form of Insurance. On the other hand, knowing the large amount of good that the fund is doing, I think we should all be glad to feel that our subscriptions are helping, and will help, brother planters in distress.

The subscription is obviously within the means of us all, and, I trust the new year will prove a record one.

CHATRAMS:—During the past few months, a start has been made with the erection of two Chatrams: one at Mile 14'6, and another at Mile 21'4. A sum of Rs 2,500 has already been ear-marked for these buildings, and expenditure of Rs. 773-15-6 has been passed through the accounts now before you. This sum, however, does not represent all the work that has been done. Owing to the incompletion of the buildings it has been impossible to embody the full amount spent in the accounts. These buildings will very shortly be finished, and, I trust, will prove a boon to our labour.

ACCOUNTS:—These are now before you. They have been audited by Messrs. Simmons and Jones, and show a balance in hand of Rs. 4,845-15-8. A large sum, as you will see, has been expended in connection with the Tiruppur Show, for which, I regret, little benefit can be shown.

In conclusion, gentlemen, I have to offer my best thanks to our late Chairman, Mr. Robinson, for his very able and kindly assistance; to our present Chairman, Mr. Congreve, for the manner in which he has ever been ready to be of help since relinquishing the post of honorary secretary; and to you all, gentlemen, for the manner in which you have always answered my letters, and sent in subscriptions when so requested. I now beg to place my resignation before you.

In connection with the accounts, Mr. Simcock raised a point with regard to the payment of Delegates' expenses incurred when interviewing the Director of Civil Supplies. It was proposed from the Chair, and carried unanimously, that expenses incurred should be paid on receipt of a request to that effect.

Proposed by Mr. Simmons, and seconded by Mr. Pittock, that the Honorary Secretary's report and accounts be adopted. Carried unanimously.

POLLACHI TALUK BOARD:—Read letter D. Dis. No. 121/D. B. of 1920, dated the 18th March, 1920, from the President, District Board, Coimbatore. Read letter D. Dis. No. 227/D. B. of 1920, dated the 12th April, 1920.

NELLIAMPATHY ESTATES:—Read letters from Mr. Arthur Hall, dated the 7th April, 1920, and 9th February, 1920.

The Honorary Secretary was instructed to draw Mr. Hall's attention to the earlier letter, requesting election of Karapara Estate, and to ask for payment of subscription due at an early date.

POSTS AND TELEGRAPHS:—Read letter No. F. 2—749, dated the 4th March, 1920, from the Superintendant of Post Offices, Nilgiri Division, also telegram of the 9th April, 1920, requesting accommodation for short visit. Messrs. Fraser, Carless and Hardy kindly offered to provide the necessary accommodation.

It was decided that the General Committee should hold an informal meeting at the Club at 10 a. m., on Saturday, the 24th April, to meet the Superintendent.

Mr. Cotton mentioned the fact that an insufficient stock of stamps was kept at the Valparai Post Office. The Honorary Secretary was requested

to bring this matter, and also the matter of telegraph peons, to the notice of the Superintendent.

PROPOSED CHURCH FOR THE DISTRICT.—Proposed from the Chair, and carried unanimously:—"That this Association approach the Govern-"ment Chaplain of Coimbatore with a view to the building of a Church in "this District, asking him to approach Government in connection with a "subscription towards the cost of same."

PODANUR AGENCY.—Read letter, dated the 15th March, 1920, from the Agent. The meeting went into Committee to discuss present and proposed expenditure. In open Meeting, the following resolution, proposed by Mr. Fraser and seconded by Mr .Simcock, was carried unanimously:—

"That, as the Railway is now working under normal conditions, the "services of the Agent at Podanur be dispensed with."

ROADS.—The Meeting went into Committee, and considerable discussion took place. The Honorary Secretary was requested to draw the attention of the Officiating Superintending Engineer, IV Circle, Coimbatore, to his letter, dated the 16th December, 1919, requesting information with regard to the Annual Upkeep allotted for the Anamallai Ghaut Road.

Read letter, dated the 15th March, 1920, from the Planting Member of Council to the Chairman, Anamallai Planters' Association, and enclosure (letter of Mr. Hutton to the Planting Member, dated the 6th March, 1920).

The following resolution, proposed by Mr. Carless, and seconded by Mr. Simmons, was carried unanimously:—

"That a sub-committee be appointed to press upon Government the "extreme urgency of settling the whole question of the upkeep of the "roads in the Anamallai District, and the taking over of the same by "the Anamallai Planters' Association: this sub-committee, if desir-"able, to wait upon the Government of Madras, and urge upon them "the importance of a speedy settlement of the matter. This sub-"committee to consist of Messrs. Congreve, Fraser and Pittock, and "the Honorary Secretary."

In connection with the upkeep of the bridle paths, the Honorary Secretary was instructed to sign the contract for same.

PLANTERS' WAR MEMORIAL.—Read circular from the Secretary, U. P. A. S. I., dated 27th March, 1920.

The matter was discussed in Committee, and allowed to stand over till a later date.

TOWNSHIP AND BAZAARS.—Read copy of proceedings of Meeting of Pollachi Taluk Board, held at Udumalpet on the 27th February, 1920.

The meeting resolved itself into committee for discussion of the matter. Mr. Fraser was asked to arrange for the immediate construction of not less than 6 lean-to-shelters. The following gentlemen offered to help:—Messrs. Congreve, Cotton and Sampson.

In open meeting the following resolution, proposed by Mr. Cotton, and seconded by Mr. Fraser, was carried unanimously:—

"That a sum not exceeding Rs. 1,000, out of the sum voted by the "Anamallai Planters' Association for the construction of two "bazaars, be utilised for the erection of six corrugated iron "shandy stalls on the Township Site."

At this stage the meeting adjourned for luncheon.

On re-commencing the business of the Meeting, Mr. Pittock requested information with regard to application for sites on the Township. The Chairman explained the necessary procedure, and showed the Meeting a plan of the Township Site.

COCHIN RAILWAY, PROPOSED ROPEWAY AND COMMUNICATIONS.—The Meeting again went to committee, and a lengthy discussion took place. It was unanimously agreed that some new means of ingress and egress, as an alternative to the Cochin Railway, must be found.

In open meeting the following resolution, proposed by Mr. Cotton, and seconded by Mr. Fraser, was carried unanimously :

" That the Honorary Secretary be instructed to write to the leading " Engineering firms in India; putting before them the present " position as regards our transport, and asking them whether, " and on what terms, they would be prepared to make a thorough " investigation of all possible schemes for relieving the present " difficulties, and to submit plans and estimates for their solu- " tion. "

The Honorary Secretary was instructed to call a meeting of the General Committee on receipt of information that Messrs. Bullivants' Engineer would be visiting the District.

APPLICATION FOR WARRANTS.—The Honorary Secretary was instructed to write to the Secretary, U. P. A. S. I. and the Planting Member of Council, informing them of the action of the Sub-Magistrate at Iyerpadi on the 17th April, 1920, in refusing to grant warrants the reason given for such action being the coming into force of the new Act. The meeting doubted the correctness of the Magistrate in making the Act retrospective.

ELECTION OF OFFICE-BEARERS.—

The following gentlemen were elected :—

Chairman	...	Mr. C. R. T. Congreve.
Vice-Chairman	...	Mr. C. K. Pittock.
Honorary Secretary	...	Mr. J. E. Sampson.
General Committee	...	Messrs. Cotton, Carless Jones, Pittock and Fraser.
Representatives of the Association on the General Committee of the U. P. A. S. I.	...	Messrs. Pittock and Carless.

Mr. Pittock, seconded by Mr. Fraser, proposed a very hearty vote of thanks to the Honorary Secretary for his work on behalf of the Association. Carried unanimously.

Mr. Sladden, on behalf of all present, proposed a hearty vote of thanks to the Chair.

(Signed) C. R. T. CONGREVE,
Chairman.
(„) J. E. SAMPSON,
Honorary Secretary,

Proceedings of a Meeting of the Executive Committee of the United Planters' Association of Southern India, held at Ootacamund on the 11th May, 1920.

PRESENT :—Mr. A. S. Dandison, Chairman.
The Hon'ble Mr. J. A. Richardson, Planting Member.
Messrs. C. R. T. Congreve and R. Lescher.
Mr. H. Waddington, Secretary.

The Hon'ble Mr. J. A. Richardson explained that he had received a telegram from Mr. Nicolls, stating that he was unable to reach Ootacamund for want of petrol, and asking that some might be sent out to meet him, but that the telegram had been received too late for this to be done.

Recorded with regret.

ACT XII OF 1920 AMENDING ACT XIII OF 1859.—The Secretary stated that although he had been unable to obtain in Madras, a copy of the new Act, as finally passed, he had received one from the India Tea Association, which was laid on the table. In reply to our reference, Messrs. King & Partridge had advised us, that, as far as they could judge from the papers then before them, the act would not be retrospective, and would not affect contracts entered into before Act XII was passed. The Hon'ble Mr. Richardson explained that those Government officials he had consulted were uncertain if this was correct, and that the matter had been referred to the Advocate-General.

It was resolved to take no further steps pending receipt of the opinion of the Advocate-General.

PLANTERS' WAR MEMORIAL.—The Secretary informed the meeting, that, of the 26 members of the General Committee to whom the Chairman's letter had been despatched, 19 had replied, all of whom were in favour of the proposal with the exception of Mr. Vincent, of the Mundakayam Planters' Association, who asked that the matter be left over till the Annual Meeting. Letters from Mr. Murphy, protesting against the proposal, were also laid on the table.

The Secretary explained that replies in favour of the proposition had been received from all members of the General Committee of eight Associations, representing a little over 60% of the total votes of the Association, that replies in favour of the proposal had been received from one member of the General Committee of three District Associations, the other members sending no answer, and that one Association had split its vote.

The view of the majority being in favour of the proposition, the Chairman was instructed to offer a contribution of Rs. 50,000 from the funds now at credit of the Planters' War Fund to the general scheme of Nursing Homes in the Presidency of Madras put forward by Lady Willingdon.

LABOUR RECRUITING IN NEW AREAS.—All members of the Committee having received a copy of Mr. DeCourcy's report, it was taken as read, as also the following note on the same by the Secretary :—

NOTE ON MR. DECOURCY'S REPORT.

I have now received Mr. DeCourcy's report on the prospects of recruiting, and forward you copy of the same.

It is quite impossible that the Labour Department can ever make a success of opening up new areas, unless there is, at least for a time, some sort of control, or agreement by which it is allowed to establish a first connection, before indiscriminate competition upsets the whole scheme. If the wrong class of cooly is first introduced, or, if they are sent to unsuitable estates or climate, the business can only end in loss of money, and the giving of estates in our planting districts a bad name.

I did not feel competent to draft any plan of proceedings without advice, and particularly wished to ascertain whether it would be possible to exercise any control, at first, as to who went to recruit. As Director of the Labour Department, I accordingly asked Mr. E. Lord, of Messrs. Harrisons and Crosfield, Sir Fairless Barber of Messrs. Barber and Pascoe, Mr. E. Sylvester of Travancore Tea Estates Company, Mr. J. S. Nicolls, the Hon'ble Mr. J. A. Richardson and Chairman Mr. Dandison to meet me.

Mr. Sylvester was unable to come, but was represented by Mr. Farley, and we met at Coimbatore on 2nd May, and discussed the matter. No formal resolutions were put, but the result of the deliberations seem to me :

That the heads of large concerns would be willing to leave it in the hands of a Managing Committee to decide to which estates coolies from new recruiting areas should at first be sent, and that, during the initial stages, they would be prepared to issue orders to their Superintendents that

they were not to compete for such labour without the consent of the Managing Committee, who should fix rates of pay and what part, if any, of advances would be recoverable. Other points of detail were discussed, but it is unnecessary to deal with them now, as they would best be left to the decision of the Committee which finally works out the scheme.

It must be remembered that the U. P. A. S. I. have no power by which they can prevent anyone starting at once to compete in any area the Labour Department tries to open up, and, it will, therefore, be necessary to ask those who wish to try this new source of supply to consent to control for a time.

Mr. DeCourcy's proposals involve actual and direct recruiting, which the Labour Department have never, heretofore, undertaken, and the work will be completely different from anything we have tried before. The system of recruitment will be new, the country is unknown to me, and I shall want advice and assistance of the actual planter, who, I think, should be the men who are prepared to try this Labour, or, to prevent the Managing Committee becoming unwieldy, representatives elected by them. The Executive Committee of the U. P. A. S. I. will not always fulfil these conditions, and the time has come, I think, when we should establish a separate sub-committee, under the U. P. A. S. I., something in the way of a South Indian Labour Supply Committee, similar to the Tea Districts Labour Association of Assam, consisting of the Chairman and Planting Member of the U. P. A. S. I., possibly the Director of the Labour Department, and the men, or their representatives, who are actually and directly interested in the recruitment of this new labour.

Very many details require to be worked out, but these would be better left in the hands of those who contemplate employing the coolies, in conjunction with the Chairman and Planting Member, to safeguard the interests of the U. P. A. S. I. (Signed) H. WADDINGTON, *Secretary.*
.5th May, 1920.

A rough estimate prepared by Mr. DeCourcy, involving an expenditure of Rs. 3,000 per month for starting the scheme he proposed, was laid on the table, together with his bill for expense in making the report.

Mr. Whitton, of Messrs. Barber & Pascoe, attended the meeting by request, and explained the situation of his firm in the matter, that, although they will continue with the arrangements they have already made as regards recruiting, they would not enter into competition with the U. P. A. S. I. if they decide to take the matter up, but would join in with any practical scheme put forward.

The Secretary pointed out that, at the last annual meeting, the budget showed an expenditure in normal years of Rs. 2,34,209 against an income that year of Rs. 2,24,985. The income this year would probably reach Rs. 2,30,000, but there was no surplus to meet increased expenditure such as suggested, and it would have to be financed on separate lines.

It was resolved to circulate all prospective employers, suggesting that a special committee should be formed to formulate a scheme for exploiting these new Districts, including the raising of special funds to meet the cost of same, by those who wished direct recruiting to be undertaken, and that Mr. DeCourcy be informed that, his report being completed, his services are no longer required.

Mr. DeCourcy, who then attended the meeting, was informed of the decision arrived at, and, after certain minor alterations had been made in his account, and to which he agreed, the Secretary was instructed to settle same.

(Sd.) H. WADDINGTON, *Secretary.* (Sd.) A. S. DANDISON, *Chairman.*

Government of India—(Legislative Department)

The following Act of the Indian Legislative Council received the assent of the Governor-General on the 12th March, 1920, and is hereby promulgated for general information :—

ACT NO. XII OF 1920.

An Act further to amend the Workman's Breach of Contract Act, 1859.

Whereas it is expedient further to amend the Workman's Breach of Contract Act, 1859 ; It is hereby enacted as follows :— XIII of 1859.

Short title. **1.** This Act may be called the Workman's Breach of Contract (Amendment) Act, 1920.

Amendment of section 1, Act XIII of 1859. XIII of 1859. **2.** (1) Section 1 of the Workman's Breach of Contract Act, 1859, (hereinafter referred to as the said Act) shall be renumbered sub-section (1) of section 1.

(2) In the said sub-section—

(*a*) after the words "an advance of money" the words "not exceeding three hundred rupees" shall be inserted ; and

(*b*) the words " and the Magistrate shall thereupon issue " to the end of the section shall be omitted.

(3) To the said section the following sub-sections shall b added, namely :

" (2) The Magistrate shall at once examine the complainant on oath, and may thereupon dismiss the complaint if, in his opinion, there is no sufficient ground for proceeding.

(*3*) If, in the opinion of the Magistrate there is sufficient ground for proceeding, he shall issue a summons or warrant, as he may think proper, for bringing before him such artificer, workman or labourer, and shall hear and determine the case,"

3. (*1*) For section 2 of the said Act the following sections shall be substituted, namely :—

Substitution of new sections for section 2, Act XIII of 1859.

" 2. (1.) If it shall be proved to the satisfaction of the Magistrate that such artificer, workman or labourer has received money in advance, not exceeding three hundred rupees, from the complainant on account of any such work, and has wilfully and without lawful or reasonable excuse neglected or refused to perform or get performed the same according to the terms of his contract, the Magistrate may, in his discretion, either order such artificer, workman or labourer to repay the money advanced, or such part thereof as may be just and proper, within such period and in such instalments, if any, as the Magistrate thinks fit, or order him to perform or get performed such work within such period, not exceeding one year, as the Magistrate may determine and otherwise according to the terms of the contract :

Order for repayment of advance or performance of contract.

Provided that no such order shall be made—

(*a*) unless the complaint was brought within three months of the neglect or refusal, or

(*b*) if it is proved that the complainant has, on any previous occasion, obtained an order under this sub-section against such artificer, workman or labourer.

Explanation :—Where no time has been fixed for the performance of a contract, neglect may be presumed to have occurred on the expiry of such period as the Magistrate deems to be a reasonable time for the performance thereof.

(2) If such artificer, workman or labourer shall fail to comply with an order made under sub-section (1), the Magistrate may sentence him to imprisonment for a period not exceeding three months, or, if the order be for the repayment of a sum of money, for a period which may extend to three months or until repayment is made, whichever period is shorter:

Provided that, where any instalment has been ordered, no sentence of imprisonment exceeding one month shall be passed for default in payment of any one instalment, and the aggregate of such sentences shall not exceed three months.

(3) The Magistrate may, from time to time, extend the period for repayment of money advanced or for the performance of work, as the case may be, and may vary the instalments:

Provided that no order shall be made under this sub-section extending beyond one year from the date of the order under sub-section (1) the period within which the work is to be performed.

(4) No repayment of any money or order therefor shall deprive the complainant of any civil remedy, whether for the recovery of any money advanced and remaining unpaid or otherwise, which he may have otherwise than under this Act.

Inequitable contracts not to be enforced.

2A. The Magistrate may, in his discretion, refuse to make an order under section 2 where, in his opinion, the contract in respect of a breach of which the complaint has been made was substantially unfair.

Compensation in false or frivolous or vexatious complaints.

2B. (1) If in any proceedings under this Act the Magistrate is of opinion that the complaint was false to the knowledge of the complainant, or was frivolous or vexatious, he may, in his discretion, call upon the complainant forthwith to show cause why he should not pay compensation to the person complained against.

(2) The Magistrate shall consider any cause which such complainant may show, and, if after so doing he is satisfied that the accusation was false to the knowledge of the complainant or was frivolous or vexatious, he may, for reasons to be recorded, direct that compensation not exceeding fifty rupees be paid by the complainant to the person complained again.

(3) Compensation for the payment of which an order is made under sub-section (2) shall be recoverable as if it were a fine, and the Magistrate may, by the order directing payment of the same, further order that, in default of payment, the complainant shall suffer simple imprisonment for a period which may extend to thirty days or until payment is made, whichever period is shorter."

Amendment of section 3, Act XIII of 1859.

4. In section 3 of the said Act, for the words "to be imprisoned with hard labour," the words "to imprisonment" shall be substituted.

Substitution of new section for section 4, Act XIII of 1859.

5. For section 4 of the said Act the following section shall be substituted, namely:—

To what contracts Act extends.

"4. In this Act the word "contract" shall extend to all contracts within the meaning of the Indian Contract Act, 1872 [IV of 1872.]

Provided that nothing in this Act shall apply to contracts where, a period having been specified for performance, such period exceeds one year."

A. P. MUDDIMAN, Secy. to the Govt. of India.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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LABOUR.

It is not difficult, at any time, to realise that this subject forms the most important topic of the planter's conversation, it crops up in his Planters' Association minutes, it confronts him on his daily round, it, in fact, dogs his footsteps by day and haunts his pillow by night. To quote him, or the papers which cater for him, is at all times an easy matter, but we do not always find a similar concatenation of events such as we have been favoured with in the past week or so, and which have a particular bearing on the labour question in Southern India at the present moment.

We were able last week to publish the details of Act XII of 1920 amending Act XIII of 1859, more commonly known as the Workman's Breach of Contract Act, and to-day we are printing the report of the proceedings of the Nilgiri-Wynaad Planters' Association Annual Meeting, held at Gudalur on the 6th inst. At this Meeting, the Honorary Secretary in his report has a good deal to say on the subject of the Labour Laws, and his remarks are worthy of very close attention. Particularly we are interested in his opinion that Act XIII will be forced on those planters now using Act I of 1903, and that, in the Nilgiri-Wynaad at least, planters may as well determine at the outset to make the best of a bad job, an opinion we have ourselves expressed before now. Mr. Nicolls dies hard, but nobody will dissent from his valedictory statement. or his opinion that we are all ready to accept an act which will combine protection of the employer with justice to the labourer.

The most important part of the contribution to the labour question which these minutes make, is the reference to recruiting in new areas. The Minutes of the last Executive Committee Meeting of the U. P. A. S. I. show that the meeting under review anticipated with some accuracy the action of the Executive Committee in this matter. It is in this connection that we have a few remarks to make, and they are based on information which comes, as we have said, appropriately at the moment when the U. P. A. S. I and the planter of S. India are faced with the necessity of taking up recruiting lines hitherto strange to the policy of the Labour Department, and, in a country that knows not Joseph. We have before us the Rubber Growers' Association Bulletin for March 1920, No. 2, Vol. 2, which reproduces, under the heading "Indian Immigration, Malaya," copy of the notification No. 4774 of a Bill introduced in the Federal Council, F. M. S. to amend "The Labour Code, 1912." For the benefit of those who are unaware of the cost of Indian labour to the Straits Planters, we give the following extract of the principal enactment, Section 157, which provides. , . . . *inter alia* "for a rate not exceeding three dollars a quarter to be paid by every employer in respect of every Indian labourer employed or working on the place of employment during the quarter." Clause 2 of the amending Bill deletes three dollars and substitutes therefor *six dollars*, the objects and reasons for this change being given as "in view of a prospective heavy increase in the cost of immigration."

At a meeting of the Indian Immigration Committee, held at Penang last November, the Chairman was asked to take steps to obtain powers for the Committee to raise the assessment rate, if and when necessary, to a maximum of six dollars, and, further, it was decided to continue the rate of recruiting allowance, *viz.*, five dollars, for the first quarter of 1920. The Committee, however, hoped to be able to raise it as soon as circumstances permitted, the maximum in view being $10·00 a labourer.

We now come to the report of the Standing Committee of the Planters' Association of Malaya, presented at the Thirteenth Annual General Meeting, held on 28th April last. It has been obvious to us for some time past that the planters of the F. M. S. were gradually being faced with a shortage of Indian labour. Not that numbers have fallen off, but the rate of increase is not sufficient to meet the increasing demand. Couple this with kindred matters, like the fall in the dollar exchange with the rupee, and the determination of our brother planters to devise means to overcome their difficulties is understood. To this end the decision was made to compensate the cooly for the loss in exchange, and now we have the raising of the assessment to six dollars per quarter, and on the other hand the recruiting allowance has been raised to $ 10·00 per head. These fees are paid into the Immigration Fund

Now it follows from this that an estate with a force of 1,000 Tamils, already established, is to pay a sum of $ 6,000 to the fund per quarter, *i. e.*, $ 6 for every Tamil *on* the estate. It imports, say, 250 Tamils this quarter, for which it pays $2500. For the next three quarters it pays $22500 (*i. e.*, 1250 coolies at $ 6) and imports no more labour. The established labour has already been paid for, so an influx of 250 coolies has cost the estate $31,000, *i.e.*, $ 124 per head.

What is the moral? At the Executive Committee Meeting to which we have referred, Mr. Waddington said the income this year would probably reach Rs. 2,30,000 against an expenditure, in normal years, of Rs.2,34,209, and there was no surplus to meet increased expenditure such as suggested; it would have to be financed on separate lines. At the Nilgiri-Wynaad Meeting, Mr Fletcher in his report says, talking of food supplies, "as a

consequence there has been a large rise in labour rates, and we must face the additional burden as best as we can."

He proceeds to appeal for the closest co-operation in respect of advances, wages, etc., and is convinced that "each man for himself, and the devil take the hindmost" is a fatal policy to adopt in any planting district. We can but echo this sentiment, and trust that what we have written above will show the necessity of close co-operation in this matter of recruiting in new areas, that determination to face extra expenditure should be every planter's motto, and that every move of our friends the enemy should be met on this side. The figures given by the Secretary show that the Labour Department is fighting against tremendous odds, yet lacking the sinews of war. What an outcry might be expected were we to suggest an increase in the cess of 4 annas per acre; and the obverse of the medal? The Planters' Association of Malaya merely announces it as a fact that Tamil labour will, in future, cost double!!!

NILGIRI PLANTERS' ASSOCIATION.

At the Annual General Meeting of the above Association, held at Ootacamund on 29th April, 1920, the following members were present:—

Sir Robert Stanes, Messrs. W. A. Cherry, D. Elkington, The Hon'ble Mr. J. A. Richardson, Messrs. A. S. Dandison, J. B. Leslie Rogers, J. Harding Pascoe, M. Hayn[illegible] C. Hercus, A. A. Brown, S. C. O'Reilly, P. Beaver, L. A. Hawke, E. E. Limouzin, L. F. Lake, C. St. John Ives, K. J. Harper, N. J. Stanes, L. L. Porter, G. W. Hollings, Norman Grey, G. F. Weston Elwes, and A. K. Weld Downing (Honorary Secretary.)

Visitors.—Mr. F. J. Bryant, the Collector of the Nilgiris, Mr. J. W. Lee Hart, Personal Assistant to the G. T. M., S. I. Ry., Mr. H. C. Osborne.

Owing to the unavoidable absence of the Chairman, Mr. G. F. Weston Elwes was duly elected by the meeting, and took the chair.

I. Read notice calling the meeting.

II. Proceedings of last meeting were taken as read, and confirmed.

III. CHAIRMAN'S ADDRESS.—Owing to his absence this item was deleted.

IV. The following is the Honorary Secretary's Report:—

HONORARY SECRETARY'S REPORT.

Mr. Chairman and Gentlemen.—I have the honor to submit my report for the year ending 31st March, 1920. This really covers a period of 15 months, owing to the alteration in the termination of our official year from 31st December to its present date.

All will admit that the first year under the new rules has passed off satisfactorily, which augurs well for the future prosperity of the U. P. A. S. I., and its affiliated District Associations.

Nothing is to be gained by giving comparisons of acreage figures with former years, for estates on the Gudalur side are now included in the Nilgiri-Wynaad Association, but, for purposes of comparison with future years, our acreage for 1919-20 was 11,339 acres, during which time I had the pleasure of recording some new estates not previously on the books of the Association; the figures as given me for the year 1920-21 are 11,312 acres, and I trust this year will see the few estates that have not as yet joined come in.

During the year under review there were four general, two extraordinary general, and one emergency meetings, at which the average attendance was 20, this can be improved upon, for with some 40 members the percentage should be greater. I hope my successor will be able to give a higher average attendance at the end of the 12 months.

I will now touch on some of the more important matters that were dealt with during the year, and others that, in my opinion, need the consideration of all.

SUPPLY OF GRAIN.—You all know all about this, so I merely wish to put it on record that the Association arranged for the supply of ragi to its members at a very critical time, and, had it not been for the prompt action taken, grain suppliers would have formed a ring, and prices would have soared to famine rates. The Association saved the situation, and *all* benefited, even those members who did not take supplies from the Association, in fact the whole general public scored. I should like here to record my sincere thanks to my co-workers for the unstinted help I received from them.

KEROSINE OIL.—Arrangements were made whereby members received this at a lower rate than the general public.

LABOUR ACTS.—We were asked through the Parent Association to give our views on matters connected with above, and I believe that local conditions will be met by special legislature.

PERSIAN TEA MARKET.—This matter is on the agenda for to-day. I trust, with this apparently large opening for our teas, we may soon be able to get teas through more speedily than is at present the case. I am sure Captain Dunning is doing all in his power for us.

PEST ACT.—We had the pleasure of welcoming Mr. Anstead at one of our meetings, and he gave us an interesting address on the working of the Act as proposed for cotton, etc. I trust the day is not far off when we shall see it extended, as a trial, to semi-abandoned coffee on these hills.

INCOME TAX ON TEA.—This still awaits the decision of the Calcutta High Court, so nothing may be said on the matter.

S. I. P. B. FUND.—I must thank those members who have met my appeals as they should, but every member has not become a subscriber, and I ask my successor not to forget to catch non-subscribers on every possible occasion, for the fund wants and expects at least the minimum of Rs. 10 per annum from every planter.

POLICING OF COFFEE.—Our thanks are due to the District Superintendent of Police, for the special staff of constables placed at our disposal every coffee season.

INFLUENZA.—I should like to be allowed to draw the attention of the local authorities to the fact that Ceylon is making its own vaccine (or whatever is the proper term) for inoculating against this scourge, and would suggest that the Madras Government see that a supply of vaccine is ready for use, should the necessity arise—it's futile to start preparations AFTER another epidemic (which God forbid) occurs; let us be forearmed against this plague.

ROADS AND COMMUNICATIONS.—This matter is of interest to us all. I believe there are far-reaching schemes coming along, may they soon materialise. As regards our District Roads, there is great room for improvement, and I trust, with our old friend (Col. Ward) back at the helm, we shall see them again, before many months are passed, more like that they were some few years back.

STATEMENT OF ACCOUNTS.—One of our members has very kindly audited these. They show, as at 31st March, 1920, a credit balance of Rs. 1,934-12-2; Rs. 1,000 of this has since been paid to the U. P. A. S. I. The total amount paid so far is Rs. 12,500, and, as at the moment we have a credit of some Rs. 1,500, and our total subscription to U. P. A. S. I. being some Rs. 14,000 odd, this amount (Rs. 1,500) together with a few outstanding subscriptions, which latter I have no doubt will be received within the next few days, should serve to meet our liabilities. Expenditure has been heavy under postages and telegrams owing to greatly increased correspondence, and also on account of telegrams sent to Captain Dunning (I have asked the N. W. P. A. to meet us by contributing half the cost of the latter, and their Honorary Secretary has promised us a reply after their meeting to be held on 3rd May). Delegates' expenses have exceeded the estimate, we subscribed Rs. 50 to the Peutland Portrait Fund, and spent Rs. 80 on Books of Proceedings, besides having had to meet incidental expenses in connection with grain supply and kerosine oil. Stationery and printing have been a heavy charge, due to increased work, and I would like to place on record that, whereas formerly the Honorary Secretary had only some 4,000 to Rs. 5,000 passing through his books, this year, including the supply of grain, nearly a lakh of rupees has passed through. I have done my best to keep expenses as low as possible, consistently with efficiency.

I ask you now to kindly pass the accounts, and, in conclusion, gentlemen, I thank you for the honor you did me in electing me as your Honorary Secretary. I heartily thank my Chairmen for their unfailing help and support, without which I fear my term of office would not have availed much. To the members of the Committee I tender my hearty thanks for the help and advice given on matters I have had to refer to them. On behalf of the Association, it has been with pleasure we have welcomed our District officials whenever they have been able to attend our meetings, and I thank them for the interest they have shown in the Association and its work, by their readiness at any time to grant me an interview.

I now place my resignation, along with that of my Committee, in your hands.

The statement of accounts was placed on the table, and they were passed.

V. LABOUR ACTS.—Letter from Mr. A. A. Brown was read asking, as he understood Act I of 1903 has been repealed, (1) what is to happen to cases pending under Act 1 of 1903, and (2) what is the time limit for recovery of old advances?

It was pointed out that Act I of 1903 had not been repealed, and that this district, and others where the Act was in force, were still under its legislature.

The Hon'ble Mr. J. A. Richardson kindly promised to see the Secretary to Government in the matter.

VI. ROADS AND COMMUNICATIONS.—The first item taken up was the resolution passed at the last meeting of the Nilgiri Traders' Association, which was read to the meeting by the Honorary Secretary., Mr. Harding Pascoe spoke to the difficulty of getting tea down to the W. Coast in time to catch steamers, and proposed the following resolution, which was seconded by Mr. G. F. Weston Elwes, and carried unanimously:—

> "That the N. P. A. strongly supports the resolution of the Nilgiri "Traders' Association regarding the restrictions in booking of "goods over the railways in South India, and would point out "that produce from estates on the Nilgiris is held up, so that

" shipping of crops is often delayed through their not reaching " the coast in time."

Several members then asked Mr. Lee Hart questions regarding the capacity of the railway to carry more goods, he replied that this was conditional on the receipt of engines, etc., from the makers, and, on this point, they would give no guarantee as to by what date they could supply. The proposed electrification of the railway was then discussed at great length, and the following resolution—" That this Association considers the electrifi- " cation of the Nilgiri Railway absolutelv essential, to enable it to cope " with the ever increasing traffic to and from these hills, and, presses that " immediate steps be taken in the matter," proposed by Mr. Dandison and seconded by Sir R. Stanes, was placed before the meeting. In so doing, Mr. Dandison said :—

" In proposing the resolution (which, I hope you will support either as " it is, or with constructive amendment) I think I am voicing a " great Nilgiri need." These Hills have increased not only " agriculturally, but also residentially, and, whereas a few years " ago only, the railway was able to deal with all traffic tendered " and desired more, we are now told that it is working up to its " utmost capacity. With more engines the service could possibly " be improved, but never to the extent that electrification would " achieve. Carting rates are soaring, and tend to make the " present high cost of living higher still, and will certainly affect " the prosperity of the Nilgiris.

" Something has got to be done. With electric power probably " available shortly from the Kundahs, the solution is plain, and " to delay now to make a decision will assuredly mean higher " freights in the future for most obvious reasons. Another " point is that, while we are not just at present in as acute a " position as the Anamallais, we shall be soon, unless immediate " provision is made for the future. In any case for the next year " or two, before electrification could become an accomplished " fact, we are in for a thin time, and I do not see why the railway " should not be asked to remedy their own inefficiency by run- " ning a supplementary service of motor lorries on the Ghat Road, " during the busy times of the year at least. These lorries " would be of the utmost service during temporary break downs " of the railway in the N. E. monsoon, as they would enable the " railway " to carry on" instead of engaging carts at fabulous " rates, and leaving the Planter, who has most probably advanc- " ed heavily for these very carts, stranded."

The resolution as it stood was then put to the meeting, and carried unanimously.

From what Mr. Lee Hart said, it was apparent that there was no prospect of any increased goods traffic over the Nilgiri Railway for at least 2 years. It was therefore decided that the following committee be appointed to collect statistics and report on the feasibility of a motor lorry service, to run on the Ghat Road and to centres on the western side of the district. The committee to consist of Messrs. A. S. Dandison, Harper and Elkington.

A hearty vote of thanks to Mr. Lee Hart, from the Chair, was carried with acclamation.

Read letter No. 23/1920 from the President, District Board, the Nilgiris, and notice attached, withdrawing his notification prohibiting motor lorry traffic." (Recorded.)

Read memorandum from the Collector, the Nilgiris, to the Honorary Secretary, N. P. A. informing the latter that steps are being taken to investigate the strength of the bridges on the Mettupalayam-Ooty Ghat Road, and to prepare estimates for strengthening them where required to bear motor lorry services. (Recorded.)

VII. SALE OF LANDS UNDER DHARKAST RULES.—The Honorary Secretary was instructed to write to the Collector, the Nilgiris, asking if it were not possible to publish such sales in the District Gazette, as had been the case under the waste land rules.

VIII. REPORT ON NEW RECRUITING AREAS.—Read and recorded letter from the Secretary, U. P. A. S. I.

IX. PLANTERS' WAR MEMORIAL—Mr. Dandison read correspondence giving particulars of a scheme for a Nursing Home, and it was resolved that "this Association strongly endorses the proposal of a Nursing Home for this Presidency, and considers that, subject to satisfactory safe-guards and conditions, the sum of Rs. 50,000 from the Planters' War Fund be handed over for the purpose, as the Planters' War Memorial." Proposed by the Hon'ble Mr. J. A. Richardson and seconded by Mr. A. K. W. Downing, and carried unanimously.

X. POLICING OF COFFEE.—The Honorary Secretary said he had replied to the D. S. P., the Nilgiris, that the 15th April, 1920, would be a suitable date for the withdrawal of the constables on special coffee duty. This was approved.

XI. PURCHASE OF RICE.—Mr. Elwes gave some information as regards the cost of rice, and Mr. Harper spoke as to the great loss entailed on a consignment of rice from Messrs. Best & Co. Messrs. Barber & Pascoe (Messrs. Best & Co's Agents), through their representative Mr. Osborne, spoke as regards the supply for the Nilgiris. They held ample supplies at both Coonoor and Ooty, and could issue either by the bag or measure, they would be glad to take up the supply for the N. P. A., he laid stress on the resolution passed at the meeting of this Association, held on 28th January, regarding, the supply of rice through Messrs. Best & Co. The Honorary Secretary pointed out that, subsequent to the passing of this resolution, the control over the movement of rice had been withdrawn, and, under the authority of the Committee, he had issued a circular informing members that it had been decided to leave the matter to individuals, he, therefore, promised to let Mr. Osborne have a list of members who n the latter could then circularise on the matter.

A hearty vote of thanks was accorded Mr. Osborne for the interesting information given by him to the meeting.

XII. The Honorary Secretary read letter and cables from Capt. Dunning, and the Imperial Bank of Persia, Baghdad; and it was decided that the matter be now left to members, and that they, if they so wish take up the matter for themselves. Mr. Pascoe proposed a vote of thanks to the Honorary Secretary for the amount of work put through in this connection on their behalf, especially as this was a matter that was outside the ordinary duties of an Honorary Secretary.

XIII. Read letter from Mr. E. E. Limouzin, it was pointed out that he had power to prosecute, and was advised to take this step.

The Honorary Secretary was instructed to write to the Director, Labour Department, U. P. A. S. I., advising him of the names of the Maistries Mr. Limouzin complained about.

XIV. INTEREST ON CREDIT RAISED FOR CREDIT OF RAGI.—The Honorary Secretary pointed out that, as *all* had benefited by the arrangements made, he considered that an acreage assessment of one anna per acre

should be levied, to meet the above charges. After considerable discussion the following resolution, proposed by Mr. J. Harding Pascoe and seconded by Mr. A. S. Dandison, was carried :—

"Resolved, that the amount due on account of interest due on the "Bank over-draft for the purchase of ragi be met by a payment "from those estates that took ragi at such rate per bag taken "that will cover the total still outstanding. In the meantime, the "Honorary Secretary, N. P. A., is authorised to pay the amount "due from Association Funds."

XV. ELECTION OF REPRESENTATIVES TO GENERAL COMMITTEE, U. P. A. S. I.—Proposed by Mr. A. S. Dandison, seconded by the Hon'ble Mr. J. A. Richardson, that Messrs. J. B. Vernede and A. K. Weld Downing be re-elected to represent this Association. (Carried unanimously.)

XVI. ELECTION OF OFFICE-BEARERS FOR 1920.—The following were elected :—

Chairman ...Mr. A. K. W. Downing.
Vice-Chairman ...Mr. G. F. Weston Elwes.
Hony. Secretary...Sir Robert Stanes.

Sir Robert Stanes, while thanking the members, regretted his inability to take up the work, the Chairman will therefore "carry on" for a short while, till a new Secretary is appointed.

Mr. Downing thanked the meeting for the honour done him in electing him Chairman.

XVII. Miscellaneous Correspondence.

SUPPLY OF CUMBLIES.—The Honorary Secretary read letter from the Superintendent, Central Jail, Bellary, to the effect that coolies cumblies were available at Rs. 3-4-0 each. (Recorded).

INDIAN TEA CESS.—This matter was not on the Agenda, but Mr. Dandison wished, with the consent of the meeting, to say a few words with reference to the Indian Tea Associations' Circular with regard to the increase of the cess from ¼ pie to 1 pie per lb. (The meeting agreed to the matter being brought before it).

He considered that this increase would do good to the Tea Industry; the tea cess had benefited the industry in the past and was doing a lot of good, but they were handicapped for want of money to extend their activities. Northern India was in favour of the increase, as also the London Association, and he hoped some member would place a resolution before the meeting harmonising with the I. T. Association suggestion.

The following resolution, proposed by Mr. D. Elkington, seconded by Mr. W. A. Cherry, was then put to the meeting and carried :—

"That this Association approve the proposal to raise the cess from ¼ pie to 1 pie per lb."

With a vote of thanks to the Chair, and to the Collector for the use of the room, the meeting terminated.

The following books were laid on the table :—

Planters' Gazette.
Year Book of the Ceylon Agricultural Society.
Report of Agriculture in India.
Report of Production of Tea in India.
Agricultural Bulletins.
Tropical Agriculturist.

(Signed) G. F. WESTON ELWES,
Chairman.

(Signed) A. K. WELD DOWNING,
Hony. Secretary.

NILGIRI-WYNAAD PLANTERS' ASSOCIATION.

Proceedings of the Second Annual General Meeting, held at Gudalur, on 6th May, 1920, at 11-30 a.m.

PRESENT:—Messrs. J. S. Nicolls (Chairman), J. Aird, T. A. Kinmond, J. W. G. Bisset, G. A. Rutter, A. F. Dalley, J. H. Wapshare, G. W. Fulcher, Davis, W. B. de Courcy, and F. W. F. Fletcher, (Honorary Secretary.) *Visitor*—Mr. Hay.

The proceedings of the last Meeting having been confirmed, the Chairman called on the Honorary Secretary to present his report. Mr. Fletcher said:—

Mr. Chairman and Gentlemen,—MEMBERSHIP AND ACREAGE.—The number of estates on our books stands at the same figure as last year, viz., 17. As in two cases two properties have the same representative, the number of members is 15. In his speech at the last Annual Meeting, our Chairman expressed the hope that "the day is not far distant when we shall be able to welcome as members the estates owned by our Indian brother planters." They have not yet come in, but they must see as clearly as their European confréres that the need for co-operation amongst planters becomes every day more insistent, and I hope that the year which has just begun will see them all members of the Association. I would also appeal to the *chick dhorays* on the large concerns which are already members, to join the Association. Under Rule 3, they can become personal members for the small annual subscription of Rs. 12, and this subscription entitles them to a vote.

Owing to extensions during the last planting season, the subscribing acreage has risen to 12012·37 acres, made up thus:—

Tea	...	7140·54
Coffee	...	4557·19
Rubber	...	314·64
		12012·37 acres.

MEETINGS.—Five meetings were held during the period under review, the average attendance of members being 8. As I mentioned in my report last year, owing to our low membership our meetings can never be imposing numerically. Further, we are scattered over a wide area, and attendance at meetings entails a long journey on every one of us. But none the less, I hope to see the average attendance for the year on which we have just entered rise considerably above the figure at which it stands for the past year—53%.

FINANCE.—At the meeting held on 3rd December, 1919, it was decided that the Association's official year should end on 31st March in order that it might synchronise with that of the parent Association. The accounts I now submit, therefore, cover a period of ten months—from 1st June, 1919 to 31st March, 1920. They have been audited in the Chairman's office, and found to be correct, and I lay them on the table. The receipts for the year amounted to Rs. 1,097-15-6, and adding the balance in hand at end of last year, Rs. 421-4-0, our total income was Rs. 1,519-3-6. The expenditure under all heads totalled Rs. 1,108-3-6, leaving a balance in hand of Rs. 411 to be carried forward. With the accounts I have filed an estimate of income and expenditure for the current year, which shows a carry over of Rs. 601-3-0. Our present subscription of 1½ annas per acre will, therefore, provide us with ample funds. The Association may, I believe, shortly expect a considerable windfall from the Emergency Committee in the share of profit on the grain transactions of the past year, and this will form the nucleus of a reserve fund.

REVIEW. THE LABOUR LAWS.—To date I have seen no definite pronouncement that Act I of 1903 will be repealed, but I think we may take it that the intention of the Imperial Government is to bring the whole of India under Act XIII of 1859. This latter Act has been amended by the Legislative Council, and in its new form is now an accomplished fact. I have only the newspaper accounts of the Proceedings of the Legislative Council to go upon: judging from these the principal alterations that have been made are:—

(1) The period in which a complaint can be made is limited to 3 months.

(2) A complaint cannot be made under the Act in respect of an advance exceeding 300 rupees.

(3) The period for the performance of the contract, where a period is fixed, is limited to one year.

(4) Large powers are given to the trying Magistrate. If, in his opinion, the terms of the contract are unfair to the workman, he may refuse to bring the case under the Act. If, after examining the complainant on oath, he considers that just cause for proceeding has not been shown, he may throw out the charge without compelling the appearance of the accused. If he considers the complaint false or frivolous or vexatious, he is given power to award the workman compensation. If the breach of contract is proved, he has discretion to order either repayment of the advance or performance of the contract, being no longer bound by the option of the complainant in this matter. He is given power to allow any time for repayment of the advance, in such instalments as he thinks fit. If he passes an order for performance, he can fix a time not exceeding one year for such performance. This order he can vary as he likes, provided that the period cannot be extended beyond one year.

(5) Once an employer takes proceedings against a workman, he cannot again have recourse to the Act.

That is how I read Act XIII in its new guise from the newspaper reports, and I think, gentlemen, that, with me, you will wonder whether it affords an employer any security at all against a dishonest workman. It is not even clear whether the term "workman" will include a "Maistry." If it does not, our Maistries will presumably be exempt from the operation of the Act—a pleasant prospect for the planter who has to deal with a dishonest Maistry. This was, I think, one of the points put forward by the deputation from the U. P. A. S. I. which had an interview with H. E. the Governor on 9th February last; but apparently all their representations were ignored by the Government of India. The avowed intention of the Imperial Government in amending Act XIII was to safeguard the "workman," but I think even the most impartial and disinterested critic will admit that their solicitude has been carried too far. So long as an employer is compelled to pay the workman for his work before that work is performed (for that is what the iniquitous system of advances really amounts to), so long surely is the employer also entitled to some measure of protection against a "workman" who takes an advance without any intention of fulfilling his agreement. There is just a shred of hope that Act I will not be repealed, but we would be unwise to build on it. We had better make up our minds that the amended Act XIII will be forced on us, and determine at the outset to make the best of a bad job.

COMPENSATION FOR TENANTS' IMPROVEMENT ACT.—All I am in a position to say on this vital question is that it has been before Government for some time. I do not see how the justice of our claim can be gainsaid, and I hope that very soon the Act will be extended to our District.

GRANT OF LAND ON COWLE.—Owing to the long delay in handing the land over to the Association, I regret to say that very little progress will be made this year in planting it up with food grains. Had the block been made over in time, a considerable extent would have been opened this season, but when delay after delay occurred, applicants for holdings withdrew, and took up land elsewhere. As a consequence, I was compelled to sell the stock of seed ragi I had procured from the Agricultural Farm at cost price to one of our members. This seed was infinitely superior to cossore ragi, and I looked forward with great interest to the results that would follow its introduction into the District. In appearance it was incomparably better than either Mysore or local seed. I weighed a "puddi" against an equal quantity of cleaned Mysore ragi, and found a difference of no less than 6 ounces in favour of the Coimbatore seed, which meant a gain of about 40 lbs. in the "pulla." I had, therefore, solid reason to hope that it would give a yield far in advance of that now obtained by ryots from either Mysore or local seed. It has been a matter of keen disappointment to me that our projected experiment has fallen through—for this season at least. Now that we are at last in possession of the land. I hope that next year it will be possible to arrange for the opening of the whole block. My thanks are due to Mr. J. W. G. Bisset for the great help he has given me in taking over the land, and getting it demarcated.

COFFEE.—The last crop was a small one in the Nilgiri-Wynaad, and I believe the same remark would apply to all coffee districts. On paper, home prices are dazzling—higher, I should imagine, than they have ever been before; but high exchange and high freight take a good deal of the gilt off the ginger-bread. Crop prospects for the coming season are excellent.

TEA.—Tea properties have had nothing to complain of in the matter of crop; but those financed from home have been hit just as hard by high exchange and freight as coffee estates in the same case.

FOOD SUPPLY.—We are not now menaced, as we were last year, by a scarcity of food grains, if not actual famine, as the last monsoon was a most favourable one, and bumper crops of all grains were reaped in Mysore. But the good harvest has had no effect on prices, which are still abnormally high. This can only be due to profiteering—an evil with which seemingly, all Governments are powerless to deal effectively. As a consequence, there has been a large rise in labour rates, and we must face the additional burden as best we can. In this connection I cannot refrain from saying that, in my view at least, one of the fundamental objects of an Association like ours is—or should be—the closest co-operation in respect of advances, wages, and tasks. It may be that when we come to consider the Inter-District Labour Rules, we shall at the same time be able to frame separate rules for our own Districts. I sincerely hope so, for I am convinced that "each man for himself and the devil take the hindmost" is a fatal policy to adopt in any planting district.

INCORPORATION.—This matter is still in abeyance, pending completion of the Articles of Association by the Solicitors to the U. P. A. S. I.

GENERAL AND INTER-DISTRICT LABOUR RULES.—These are also held over for the reason given in the preceding para.

ROADS.—All estates have experienced great difficulty in moving their produce this year. Not only have cart rates gone up, but it has been difficult—sometimes impossible—to procure carts at any price. A virulent outbreak of rinderpest last year, both in our District and in Malabar, is doubtless the chief reason for the present shortage of draught cattle. Here I would say that the Superintendent, Veterinary Department, has promised to depute an Inspector to the Gudalur Taluk "as soon as men are available." I hope we

shall not have to wait for him till the Greek Kalends. The high price of materials, especially of iron tyres, has also contributed to the scarcity of carts. It seems clear that the time will soon come when we shall have to rely on motor transport for moving our crops to the coast for shipment. This will involve the strengthening of some, if not all, of the bridges on the roads our produce has to take, and we ought to lose no time in asking that this urgent work should be carried out. I hope the Wynaad P. A. will make a similar request in respect of the road from the Nilgiri boundary at the Sholadi bridge to Calicut. I understand that the D. P. W. have taken over the upkeep of the Ootacamund—Calicut Road, so, it is to that Department we must apply.

As the Nilgiri District Board have been relieved of the heavy cost of maintenance of the above road, as well as that to the Mysore frontier, there ought now to be no lack of funds for putting the other roads in the Nilgiri-Wynaad into thorough repair. They are all in very bad condition, and I hope to see the allotments raised considerably for this year. But local fund rates must be increased at the same time if any good is to be done, for in present conditions contractors cannot possibly carry on at the old rates, which, even in pre-war times, were inadequate.

With these remarks, I beg to tender my resignation of my office as Honorary Secretary.

The Chairman then delivered the following address :—

Gentlemen.—You have heard your Honorary Secretary's report, and the accounts which have been audited in my office are on the table. I congratulate Mr. Fletcher on our financial position and the able way he has dealt with the work of the Association during the past year.

The subscribing acreage has increased by 375 acres. The average attendance of members at meetings held during the year has been poor. If your Hon. Secretary has failed to bring forward for discussion any matters of local interest, the lack of doing so cannot be laid at his doors. Gentlemen, I ask you to support the Association, not only with your money, but by your regular presence at meetings, and so maintain the reason of your existence, and to give your Honorary Secretary the unquestionable support he deserves by your electing him to that position.

The meetings of this Association are held in the most central available place in the district, and all members have about the same distance to travel there.

There have been many important subjects brought before the Association during the past year, and, it is on some of those matters I intend to address you.

The grain trouble, as far as direct purchasing and complete selling control of grain in the Gudalur Taluk was concerned. I closed my accounts on the 31st January, 1920, a year after starting. The Demand Note on the Bank of Madras for Rs. 35,000 has been redeemed by me. You will be glad to hear that I have no bad debts. The interest due to the Bank has been paid up. The value of grain sold by me to the population of this Taluk amounted to Rs. 2,53,059-9-5. During the whole control period I was able to keep a level selling price, and one considerably less than now prevails. After closing my accounts I had at my credit about Rs. 500. The necessary funds to finance the scheme being raised by private means, those concerned agreed to the transfer of the said credit to your Association. The Emergency Committee still exists, but runs on different lines. This Taluq is differently situated to any other part of the District as regards its grain requirements, being solely dependent on Mysore. Although there is no restriction on movement of grain in the Madras Presidency, it

still exists in Mysore A fixed amount of ragi and rice is allowed to be imported for the Taluq's requirements, and it is to guard over the movements of this allotment, and, as far as possible to control selling price that the necessity of an Emergency Committee still exists. I acted as President of the old Committee, and am acting in the same position on the new. The approved importers so far have brought in sufficient supplies to meet the Taluq's requirements, but it is not as easy a matter to check selling prices under the new *regime*, as it was under the old.

LABOUR LAWS.—Your Secretary has dealt at length with Act XIII, and has left me little to say. I am glad that this Association expressed its opinion forcibly for the retention of Act I of 1903. As a planter, the last Act I would support would be a one-sided Act. The Labourer has as much right to ask for protection as the Employer, and in my opinion Act I gives him protection. If there is to be one Act applicable to the whole of India, let it be one that will insure to the labourer justice, sanitary housing and medical aid—and to the Employer protection against dishonesty. As regards those requirements I have mentioned as necessary on the labourer's behalf, at "The day of Judgment"—come when it may—planters will not be found wanting.

LABOUR DEPARTMENT.—I had hoped to be able totell you something about developments in new recruiting areas, but, as the whole matter is now *sub-judice*, it is advisable to make no rash statements, although when the matter comes up for discussion during this meeting, I shall hope to obtain your advice and opinions.

MALABAR TENMENTS IMPROVEMENTS ACT.—I regret that I am unable to make any definite statement as to the outcome of our petition that this Act should be made applicable to the Taluq. I for one have no wish to see the "Indian Squire" meet the fate of his "English Brother," and hope he will face the position in the right spirit and recognize that a tenant has claims on his improvements. We have received strong support for our claim, in the carrying of a resolution by an overwhelming majority (*vide* newspaper reports) at the late Malabar District Conference. We have asked for "Fair Play" and nothing else, and in our opinion "An Act" is necessary to insure it.

TEA.—Your Honorary Secretary has, I think, made the Tea Planters' position out better than it is. The past year was, in my opinion, one of the poorest flushing ones I have experienced in this district, although rainfall was fairly well distributed, other averse climatic conditions prevailed in those months in which we expect our heaviest flushes. Tea prices now ruling at home to the Home housekeeper may seem abnormally high. A one shilling and four pence average at home only gives the planter seven annas nett in this country at two shillings and four pence exchange. With the present rise in pay and the ever increasing cost of packing and other estate meterials, I fancy few of us can expect to produce at less than 6 annas per lb. Freight which before the war was at 35 sh. now stands at 160 sh. per ton of 50 c. ft., and whereas the cost from F. O. B. to sale before the war was under one penny, it is now four times that.

Gentlemen, I thank you all for the courtesy you have always shown to me as your Chairman, and for the kind way you have at more than one of your meetings referred to my work as President of the Grain Emergency Committee, and with your permission I will take this opportunity of thanking the many Indians of this Taluk who have also referred kindly to my work in that capacity.

In conclusion, gentlemen, I ask you to record a most hearty vote of appreciation of your Honorary Secretary's work during the past year. We

have been more than fortunate in having Mr. Fletcher as our Honorary Secretary, and I feel it would be a very difficult matter to fill his place. (Applause).

Mr. Aird proposed a hearty vote of thanks to the Chairman and Honorary Secretary for their work during the year, which was carried with acclamation.

POSTS AND TELEGRAPHS.—The Honorary Secretary said he had received a letter from the Postmaster-General, informing him that the working hours of the Pundalur office had been altered to 8 to 11 and 14 to 17 hours, and that steps would be taken in regard to the other offices, on receipt of a report from the Superintendent of Post Offices, Nilgiri Division. Also, that in respect of the appointment of telegraph peons, the Divisional Superintendent has been asked "to maintain statistics," and that "these will be examined on receipt." He read his reply to this letter, in which he pointed out that the present working hours were equally inconvenient to all planters resident in the Nilgiri-Wynaad, and that unless the above hours were made applicable to all offices in the District, planters using the Gudalur, Devara Shola, and Nellakotta offices would be no better off than they were before by the alteration in the case of Pundalar, which at best only benefited a small section of the planting community and the public. He therefore hoped that the same hours would be fixed for all telegraph offices in the Nilgiri-Wynaad at a very early date, and he added that to an outsider it would seem that the change could be effected just as easily in the case of the other offices as in that of Pundalur. He noted the Postmaster-General's remarks with reference to the appointment of telegraph peons, but could not understand why the necessary statistics were not available at once. The Meeting confirmed this reply.

PLANTERS' BENEVOLENT FUND.—At Mr. Fulcher's request consideration of his proposal in regard to this fund was deferred to a subsequent Meeting.

POLICE ARRANGEMENTS IN GUDALUR TALUQ.—Mr. Fletcher said he had put this item on the agenda paper because he wished to place before the Association the manner in which the police had dealt with an extensive theft of pepper from his estate. On 16th February last he discovered that a large quantity of green pepper, which he estimated at 25 bushels, had been stolen, a number of fine vines having been pulled down and destroyed in the process. That same day he addressed a complaint to the Sub-Inspector of Police at Devala, in which he asked that an immediate enquiry might be instituted. A week passed without any action by the police, so on 23rd February, he wrote direct to the Superintendent of Police, the Nilgiris, enclosing a copy of his letter to the Sub-Inspector, and asking that the latter officer should be directed to take immediate steps. On 28th February he received a post-card from the Superintendent, dated 25th., in which he was informed that "the matter would receive immediate attention." In spite of this nothing whatever was done, and no enquiry of any kind was made. On 21st March he received a letter from the Superintendent, dated 18th, asking whether "the men on special coffee duty might be withdrawn." He replied to this letter the following day, 22nd March, in his capacity as Honorary Secretary, and pointed out that till receipt of the Superintendent's letter he had no idea that men had ever been placed on "special coffee duty," as no constable on that duty had been to his estate since the coffee season began. In this letter he drew the Superintendent's attention to the correspondence ending with the post-card, dated 25th February, and said that no enquiry into the theft had been made to date. Then, on 30th March, six weeks after the complaint had been laid, a constable came to the

estate, and asked him "to make a complaint." He replied that a formal complaint had been made on 16th February to the Devala Sub-Inspector, and another on 23rd February to the Superintendent. He gave the constable details of the theft, and this man said he would make an enquiry. Whether anything was done then, he did not know, but obviously an enquiry at that late date would have been a farce, as the receiver had been allowed six weeks' grace in which to make away with the stolen pepper. Had an enquiry been instituted directly the complaint was laid before the Sub-Inspector, some good might have resulted, as the pepper was stolen in the green state, and some time was required to dry it. An immediate investigation might, therefore, have enabled the police to apprehend the receiver red-handed. He considered this was a matter the Association should take up, as the culpable laxity displayed by the police affected every planter in the Nilgiri-Wynaad.

After a discussion in which every speaker endorsed this view, the following resolution, proposed by Mr. Fletcher and seconded by Mr. Kinmond, was passed unanimously: —

"That this Association protests emphatically against the delay of six "weeks on the part of the Police in enquiring into an extensive "theft of pepper from an Estate in the Nilgiri-Wynaad, in spite of "complaints made by the owner to both the Superintendent of "Police and the Sub-Inspector in charge of Devala, and con-"siders it imperative that a capable and experienced Sub-"Inspector should always be in charge of Devala Station. "Further, the Association considers that a Sub-Inspector should "also be stationed at Nellakotta, as was the case till recently."

ROADS AND COMMUNICATIONS.—The Honorary Secretary said that, in connection with his remarks under this head in his report, he thought it would be well to take time by the forelook, and represent at once to the authorities concerned the urgent necessity for making the bridges practicable for heavy motor lorries. After some discussion, the following resolution was proposed by Mr. Aird, seconded by Mr. Wapshare, and passed:—

"That, in view of the scarcity of draught cattle and carts, and the "certainty that in the near future planters in the Nilgiri-Wynaad "will have to depend on motor transport for moving their "produce to the coast for shipment, this Association considers "it essential that all bridges on the Calicut road, and on the "other roads which produce from the various estates has to "take, should at once be made capable of carrying a load of at "least 5 tons, and that the Honorary Secretary be, and hereby "is, instructed to address the Executive Engineer and the "District Board Engineer on the subject."

NEW RECRUITING AREAS & U. P. A. S. I. LABOUR DEPARTMENT.—The Chairman said that, as this question of recruiting in the Northern Districts of the Presidency was now under consideration by the U. P. A. S. I. Committee, he would not go into it in detail, but that doubtless all members would soon be in possession of Mr. de Courcy's report.

Mr. de Courcy, who was present as representative of Bitherakadu Estate, kindly gave the Meeting a brief account of his recent trip to this new recruiting ground, and the impression conveyed by what he said was that prospects of obtaining labour in this fresh field were certainly favourable. The Meeting understood that the matter would now be taken up by the U. P. A. Labour Department, and it was unanimously of opinion that that Department ought to tackle the question in earnest at once, and make a start with recruiting from the East Coast without any further loss of time. It also hoped that the fullest information would be made available immediately.

As a side issue, there was a discussion as to the present U. P. A. S. I. financial year. The following resolution was proposed by Mr. Aird,

seconded by Mr. Dalley, and passed :—

"That this Meeting is of opinion that 31st March, on which the "U. P. A. S. I. financial year now ends, is an unsuitable date, and "suggests 30th June as preferable, as this would obviate the long "interval that occurs now between the end of the financial year "and the U. P. A. S. I. Annual Meeting in August."

LABOUR LAWS.—The Chairman said that all the information that cou'd be afforded from the data at present available, had been given in the Honorary Secretary's report and his address, and he would not travel over the same ground again.

GRAIN MATTERS.—The Chairman said that these too had been fully dealt with in his opening speech. He was glad that the result of a year's work by the Emergency Committee was the substantial profit of Rs. 500, and he congratulated the Association on this accession to its funds. Their thanks were due to the gentlemen who had orginally backed the pro-note for this windfall.

TENANTS' IMPROVEMENTS ACT.—The Chairman said this most important matter was still *sub-judice*. Our request for the same protection as is now given to tenants in Malabar was manifestly equitable, and he hoped we would soon have the Act.

ELECTION OF OFFICE-BEARERS.—The following gentlemen were elected as office-bearers for 1920-21 :—

Chairman	...	Mr. J. S. Nicolls.
Vice-Chairman	...	Mr. J. Aird.
Honorary Secretary	...	Mr. F. W. F. Fletcher.
Committee	...	Messrs. Davis, J. W. C. Bisset, and C. A. Rutter.
U.P.A.S.I., General Committee.	...	Messrs. Nicolls and Aird,

Mr. Nicolls said :—"Gentlemen, I fully recognise the great honor you have done me in electing me for the third consecutive year as your chairman. I am a busy man, and fear that with the increased work thrown on my hands this year, I shall not be able to devote the time I should like to give to your interests. I ask you in your own interest to elect another of your members. Well, gentlemen, as you evidently still wish me to act as your Chairman, I will do my best, and I feel in your Vice-Chairman I have one who will always, if necessity calls, relieve me of my duties, or help me in carrying them out.

Mr. Fletcher also thanked the Meeting for having again elected him as Honorary Secretary. The duties connected with that office were by no means light, but he took a very real interest in the Association, and would gladly devote the necessary time to the work for another year.

Correspondence.—

(1) Letter from the Taluq Magistrate, dated 15th April forwarding correspondence with reference to the formation of a "Discharged Prisoners' Aid Society." The file will be circulated.

(2) Letter from the Deputy Tahsildar, dated 26th April forwarding copy of his letter to the Collector relative to the assignment of Survey No. 100 of Nelliyalam to the Association for the cultivation of food grains. The Collector's reply is awaited.

(3) Letter from Honorary Secretary, Nilgiri Planters' Association, dated 20th April with reference to cost of telegrams sent to Captain Dunning, Baghdad. The Honorary Secretary was instructed to ask for details.

(Signed) J. S. NICOLLS,
Chairman.

(Signed) F. W. F. FLETCHER,
Honorary Secretary.

MANURING OF RUBBER.

In our issue of 10th April, Vol. XV, No 15. page 239, Mr. Anstead has a note on the Kerala Manurial Experiments, and we issued at the same time a tabular statement showing the yields of the various plots treated, and giving the order of merit of each plot. After some difficulty, we are now able to issue a second Table in diagram, showing the same results in a manner which admits of more ready reference. Thus, Mr. Anstead referred to plot 8, unmanured, which is now beginning to lose its place. It will be seen from the diagram that this plot, from its place in 1914-1915, jumped to second place in the following year, then first, which it held for 2 years, and has now dropped to 4th place in the order of merit. Studied in conjunction with Mr. Anstead's note and the tabular statement No. 1, we think this diagram will be of use to all who are interested in these experiments.

In this connection we have received the following from a correspondent :—

Rubber Manuring Experiments.

In the experiments in rubber manuring done at Kerala, two things have been done which more or less spoils the whole,—thinning out and the manures originally applied have not been continued throughout.

Looking over Table 1, you will notice that the thinning out was begun in 1916, and consequently in 1917-1918 the results show decreased yields for all plots from Nos. 1 to 10 ; No 2 plot as much as 4½ per cent. (This must be the cause, as there is nothing else to account for it).

Now, the results of manuring can be seen from the Table, but to combine it with thinning out will not give us their proper values. Comparing yields 1917-1918 and 1918-1919, No. 4 plot recovered the best, followed by 2, then 3, but the unmanured plot No. 8 shows the least increase, followed by No. 10, which had Ephos Phosphate all through. From this we can see that manuring does have an effect on yields, and the appearance of the trees must be better, but I would not say they would be less liable to disease, and it would be interesting to know the various diseases in each plot, and the amount of damage done.

It is a pity thinning out had to be done. Also the same manures could not be continued, if they had been continued the experiments would have been of some value : the thinning out is after all not of very much importance.

As regards manures used, all of them are incomplete except No. 7, which was continued up to 1916, and in 1917 only nitrolim was given : in 1918 and 1919 fish guano.

We have been told that there is such a thing as the " law of minima," but it appears to have been forgotten. It stands to reason, if we apply an incomplete manure, the missing property or properties must be obtained from the soil, and, as the other properties are supplied, the plant will strive to obtain the property missing in greater quantities than before, which will deplete the soil in that property in a few years, and, if the property missing is not supplied, the plant cannot utilize all the other properties which are given year by year, and which will remain in the soil to be gradually washed out, and the plant will go back, the manuring having been simply a waste of expenditure.

Of course there will be a certain amount of properties available from decaying bodies from time to time, but, will it supply that property which is not in the manure in a sufficient quantity to utilize all of the other fertilizers? I do not think so ; rubber soils are not too rich. Granted the property is available, it will not be inexhaustible.

Therefore, these experiments with incomplete manures are of no value to others but the experimental plot, and possibly areas adjoining it, and the same manure cannot be used for extended periods. It is impracticable to use these manures on other estates, for every agriculturist knows that there is a great diversity of soils even in a small estate, as this depends on how the layers of soils have been formed.

Another thing of great interest is diseases caused by the use of various manures. It has been proved that, in certain products, some manures permit diseases to attack the plant, whilst others fortify it and help it to keep them away. In the Kerala experiments the original treatments were not continued throughout, therefore one cannot lay the blame on any one of them, the same with regard to the yields.

I should say the best method for experiments will be to apply complete manures, including soda and lime, in different proportions of each type, namely, we will take for instance No. 7 of the experiment treatment contains :—

5 basic slag.
3 Sulph of Potash. } 4 lbs. per tree.
4 Nitrolim.

Now, one plot will receive the same, another an increase of one of the properties say, basic slag, the next one an increase of, say, sulphate of potash ; now, in No. 3 plot the other two properties will remain as the first plot, but an increase in sulphate of potash, and so on for each lot of complete manures. Also, another set of plots will receive reduced quantities of each fertilizer. This method will, of course, require more plots, as each type will require 8 or 10, but the plots may be reduced to 100 trees or so, or the various types of manures to be calculated by their content and equal quantities of each property applied to the plots.

After the experiment is over, the best plots may be repeated, as we will have gained knowledge as to what forms of manures are required for rubber. If the manures are applied by calculating equal quantities of like properties to all the plots, the method of increasing and reducing fertilizers must be used, to ascertain the quantities required. This latter will be a better method.

During the period of experiment the same manures must be applied, and in the same quantities.

Now these experiments with complete manures will have the same effect in most places, if not all, and, it must be borne in mind that where one of the fertilizers does not have any effect on the tree when reduced or increased, it shows that the soil contains much of it already, or the tree does not require so much.

But here again the law of minima enters to a certain extent, nevertheless the best results will be more applicable to all estates than those of the experiments at Kerala, as they will show us in what forms to apply our manures : the quantities must be determined by experiment, but better to apply in excess than deplete the soil.

* * * *

Mr. Anstead made us a promise that he would occasionally write us from home. Perhaps he will welcome the above, as giving him something to write about.

[The Kerala Manurial Experiments Table, Diagram (2), referred to above, is unavoidably held over until next week's issue of the *Planters' Chronicle*.]

FERTILIZER ACT.

In publishing the following article from a correspondent, we wish it to be clearly understood that the views expressed therein are not necessarily the views either of ourselves or the U. P. A. S. I.

After the editorial and Mr. Anstead's note in No. 19, Vol. XV, of the *Planters' Chronicle*, a litt'e hard thinking and clear criticism becomes necessary.

On page 310, dealing with the history of the agitation for legislation, Mr. Anstead informs us . . . "again and again" . . . Dr. Lehmann advocated some form of control, until in 1907 the Board of Agriculture definitely turned the subject down.

. . . "The planters were not content with this opinion, and continued to say so, but the subject disappears from the records until 1913—1914" . . . It would be interesting to know who the planters were who were not content, or, was it merely at the advice of a scientific adviser the subject was kept alive? Also, why the subject disappears from the records for some 6 years?

In 1913-14 the subject reappears over the question of the adulteration of fish manure with sand. It is interesting to note that the latest advice is, this material is to be included under Schedule I, and excluded from the proposed Fertilizer Act.

As Mr. Anstead states . . . "so much for history" . . . His authorities are, Dr. Lehmann, at one time the Imperial Chemist, whose suggestions were turned down in 1907, and Dr. Hope, the late Scientific Officer of the I. T. A.

Throughout this period, artificial manures have been used by planters only, without special legislation to protect them. Now, it is proposed to introduce special legislation. For the benefit of the planter? No. For the future benefit of the ryot, against the time he has been educated up to the use of manures.

On page 311, Dr. Hope is reported, *re* Manures to Ryots . . . "the requirements of these classes will be chiefly catered for by small merchants and middlemen, who are likely . . . to foist worthless and adulterated material on ignorant purchasers" . . .

Mr. Anstead himself writes . . . "it may appear premature to anticipate such conditions" . . . and . . . "the prevention of fraud from the very beginning, is much better than attempts at its suppression after it exists" . . . This latter is interesting.

A quotation from Dr. Lehmann follows, again dealing with the ryot. A statement from Dr. Harrison follows this. Many analyses by the latter, all dealing with poonacs, fish manure, and other simple manures, not planters' mixtures, have been published to show the extent of adulteration, but poonacs and fish manure are included under Schedule I, and excluded from the Act.

So long as planters clearly realise that the main object of the proposed legislation is for the future benefit of the ryot, and not to specially benefit the planting industry, the object of this article will be achieved. The proposers and supporters of this measure have solely the benefits to the ryot in view, and not the planting industry, though the influence of the industry is being obtained to support the proposals.

Whether such support would be politic is not within the scope of this article, but, if existing conditions are altered, any results will fall upon the planting industry, as, during the time the ryot is being educated up, planters will still be buyers of manures. Revolutions usually bring about a drastic

change, and, it is no light matter to suddenly revolutionise an industry so closely connected with planting, without considering where it may lead to.

A point of great importance to planters in the editorial, is, that at the Board of Agriculture in 1917, the sole opponent to the change, and that only on the grounds of the great difficulties of administering the Act, was Mr. Meggitt. The only Agricultural Chemist with an intimate knowledge of planting districts opposes the change, Mr. Meggitt being Chemist to the Assam Government.

(To be continued.)

NOTES AND NEWS.

The Late Mr. J. C. Abbott.

A large of circle of planting friends all over Southern India will have heard with deep regret, of the death of J. C. Abbott at Munnar on Thursday, May 6th, at the age of 64. We extend, on behalf of the planting community in general, our deepest sympathy with Mrs. Abbott and her daughters in their sad bereavement.

The Annual Meeting.

We hear that booking of accommodation at Bangalore for the Annual Meeting on August 23rd has already commenced Association Secretaries would do well to make arrangements for their delegates well in advance.

The London Hospital Fund.

We have to acknowledge with thanks the receipt of £1 sterling from Mr. Aylmer Ff. Martin, and Ten Shillings from a member of the staff for this fund.

The Planters' Benevolent Fund.

Since out last announcement a month ago, Rs. 450 have been received for this fund. As the Secretary stated in his note in our issue of 17th April, "The Fund still lacks that general support, which is the only possible way of placing it in a satisfactory footing."

Coffee.

Latest advices from home say the market is about 15s. down from the highest point for East Indians, and, although there has not been sufficient Costa Rica in sale this week to establish a price, no doubt this description will follow suit. Nairobi and Uganda are also cheaper. According to the *Produce Markets' Review*, there is rather more demand in home trade, many dealers being very short of stock, and any general buying will probably result in a reaction, as the statistical position is strong, the world's stocks being barely equal to last year's figures of consumption.

The Rubber Position.

The recent alarming drop in the rubber market lends additional importance to the interview with Mr. Walter Norfolk, Chairman of the Amalgamated Rubber Estates, Ltd., which we reproduce in this issue from the "India Rubber Journal." That part of the interview relating to America's purchases is particularly illuminating, and bears out what we have consistently held to be necessary, "Controlled selling."

Stamp Duty and Exchange.

The question having arisen of what rate of exchange was to be used in calculating stamp duties on the conveyance of Estates, the Government of India have notified Rs. 10 per £ as the rate of exchange for the purpose of calculating stamp duty. This, however, will take effect only from 22nd April, 1920, the date of the publication of the notification, and all instruments drawn prior to that date will be liable to stamp duty at the rate of Rs. 15 per £.

POSITION OF THE RUBBER PLANTING INDUSTRY.

Mr. Walter Norfolk's Views.

The Amalgamated Rubber Estates, Ltd.—the result of the fusion of the interests of the Dolok Rubber Estates, Ltd., Rotterdam-Deli Hevea, Ltd., and the Malang Rubber Estates, Ltd.—now ranks, with its production for last year of 2,103,923 lb., seventh on the list of large rubber producers. At the annual meeting held last week, the Chairman, Mr. Walter Norfolk, said that this was the first group of rubber estates to amalgamate, and appeared to have set a fashion for amalgamation in the industry. His hope was that the lead which had been given would be a step in the direction of eventual better combination in the sale of rubber, and gradually open up means for protection of the interests of the producers, and a united policy for a more effective control of the markets, and so be some shield against the collective buying of the manufacturers.

Giving his views on the general position of the commodity, he said that during the last seven years the area under plantation rubber had shown an average yearly increase of 6·9 per cent., and during the same period the world's production, after allowing for a decrease of 9 per cent. for 1918, showed an average yearly increase of 22 per cent. The average yearly increase in production for the six years ended 1919 was 24 per cent., and, for the present year, the estimated average increase in the percentage was reduced to 5½ per cent. For the immediate future years it would show a further considerable fall in ratio, because the boom year plantings were now in full bearing.

It was worthy of note that the average increase in the area under plantation rubber for the seven years prior to 1914 was nearly 33 per cent., and, of the world's production, 7·7 per cent. Two facts here came clearly in view—first, the diminishing percentage in area planted under rubber, which eventually affects production in pounds of rubber ; and, second, that we have now arrived at a diminishing percentage in production, which, for the present year, was put as low as 5½ per cent.

During the last seven years the consumption had kept pace with production. For the present year the consumption total can be mere guesswork, but there are certain outstanding factors which are a guide to a reasonable conclusion. There are no abnormally large stocks of rubber ; the increases are only of such a percentage as is less than would be compatible with the increase in the production and demand. The forward purchases by a few wise manufacturers have gone further on the future than ever before in the history of the industry. Russia and the Central Powers, which before the war were accounting for over one-fifth of the production, have yet to come back into the market. The consumption in America alone during the last seven years has shown an average annual increase of 26 per cent., and to-day some manufacturers there budget for an increased tyre output alone of 30 per cent.

Probable Shortage of Supply.

"At the present time the planted area is yielding under 300 lb. of rubber per acre, and a continuation of the present ratio of consumption would entail an increased yearly production of 45 lb. of rubber per acre, a ratio of

increase which has never yet been achieved. If, therefore, the world's consumption continues at only three-fifths of the previous average increase, the known facts as to the area planted and its possible production point undoubtedly to that shortage, next year and onwards, which was indicated as probable so far back as 1916.

"At the same time, reviewing the then position of the market, we urged producers to stand out for that increased price for their product justified by the position, which was correctly gauged, as rubber advanced steadily in price for nearly six months. We also indicated possible temporary fluctuations in favour of the buyers in the present year. Such a position exists to-day, consequent on the back-wash of the heavy failure in Mincing Lane, and the holding off from the market of American buyers for tactical reasons, assisted, not by a cessation in requirements, or any lack of manufacturing capacity, but by a shortage of fine cotton for tyre fabrics. Without, however, considering reasons, American buyers are probably always in the position of temporarily abstaining from the market for their own purposes, and it is for the producers at such times to restrain their ardour in selling.

"Whether I am right or wrong, I have made for some years a close and careful study of the position of the consumption of rubber, and the capacity for its production to meet the ever-increasing demand for rubber-manufactured articles, and I am again and again forced to the considered conclusion that the outlook points undoubtedly to a world shortage, before any real benefit in production can be expected from areas planted to endeavour to counter-balance it. However cautious a view is taken, the rubber industry for the next few years is faced with a very satisfactory outlook.

America's Purchases.

"America absorbs about 70 per cent. of the world's production of rubber, and its attitude in the market, therefore, naturally affects the price of the commodity. In August last year, previous to the rise in the price of the commodity, the condition both as to its price and to the condition of exchange was almost identical in the result with the position to-day, which is that America can at the moment buy rubber at the equivalent of 1s. 10¼d. per lb. With the rising value of the pound sterling and the outlook for the demand for rubber, it is obvious that once again the position is ripe for America to take advantage of a cheap opportunity to secure supplies, and their purchases, from now on, must cost them more per lb. of rubber during the next nine months than during the previous nine months, particularly if directors of rubber companies, with all the factors in their favour, refuse to meet the demand at the present range of prices. The world demand for rubber tyres for motor transport, the development of which cannot be kept back, is increasing, and must increase at a higher ratio than ever before. The world must have rubber. It is for the producers to see that the demand is not supplied at a price under that justified by the position, always having regard to encouraging the development of the industry."

"The marketing of rubber," added Mr. Norfolk, "continues to give cause for criticism. When prices are high, directors in many cases gamble in the hope of still higher prices, and refrain from obtaining for their shareholders the advantage of realising a proportion of their produce at above the normal average; yet, when prices fall, the same want of vision causes these self-deceived 'bulls' to rush into the market and force sales, thus playing into the hands of the buyers and depressing prices unduly."—*The India Rubber Journal,*

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents).

The Presidency Manure Works, Ltd.
Madras, 14th May, 1920.

Proposed Legislation re. the Sale of Fertilisers.

Dear Sir,—We have read with interest the article by the Scientific Department, U. P. A. S. I., in your number of the 8th May, and there are one or two matters in connection therewith that we should like to comment upon from the manufacturer's standpoint.

Although we sympathise generally with the aims of such a measure as this, we do not think that its application is practicable at the present time, and, in its present form, the act is impossible.

(1) In the first place the article emphasises the necessity of preventing fraud, and yet in the draft we read that "substances in every day use and commonly sold by ryots and petty dealers, such as unadulterated (*sic*) animal manure and oil-cake" would be exempted from the operation of the act, and (further on) we learn that fish manure is also to be exempted. We think it will be generally admitted that the chief victims of fraud will still be the uneducated ryots whom it is sought to protect, as the planter is capable of looking after himself to a large extent. Now the ryot buys largely from petty dealers, and, it is a notorious fact that fraudulent adulteration is practically universal in the above named materials sold by petty dealers. The act, therefore, fails from the outset.

(2) The exclusion of fish manure is a particularly bad suggestion, as it appears to us that this is emphatically the place where the consumer needs protection. It should be possible in time to exercise effective control over fish manure manufacturers as well as over fish manure sellers, though there will be difficulties in any control. Presumably, the main object of the act is to do away with the dishonest manufacturers, and we fail to see why an exception should be made of the manufacturers of one of the most largely used manures in the Madras Presidency.

(3) The next criticism that we have to make is against the proposed regulations concerning the sale of proprietary fertilisers. The Scientific Department states that, "though we have advanced a little in our knowledge of what is required by our crops, our knowledge is still limited," and they cite this as a case against the proprietary fertilisers. The inference is that proprietary fertilisers are purely fortuitous preparations, based on no experiments and no scientific study. This is extremely unjust, as the majority of *bona fide* fertiliser manufacturers give up much time and undergo considerable expense over experimental work. It is just as unfair to make manufacturers publish a list of ingredients of proprietary fertilisers as it is to make a Tea Blender, or Whisky Blender, declare his *proportions* and his *sources* of supply. The proof of the pudding is in the eating, and if those who have tested proprietary mixtures wish to buy them again, there should be nothing to prevent their doing so. On the other hand they are always at liberty to purchase non-proprietary mixtures, if they prefer to do so. Proprietary mixtures are sold for a specific purpose, under guarantee of plant food contents, and this guarantee affords a basis for comparison with other recognised fertilisers.

(4). In this connection we may venture to question the comparison of the relative merits of the two mixtures given on p. 312. We can conceive of soils and crops wherein the former is as good as the latter, and, if cheap in price, would certainly therefore be preferable.

(5). We agree that an invoice should be taken as a warranty, as suggested.

(6). There are many other points where we think the proposed act will fail, particularly in the clumsy arrangements for sampling and analysis, and the danger of creating a large number of petty officials of an obstructive nature; but lack of space forbids discussion in detail. Unless the Act can be made to protect cultivators against fraud practised by *every* class of supplier - (and, there is no one who would benefit more greatly then under such an act than the larger manufacturers) —it will merely serve to protect the petty dealer, who is to-day thriving in proportion to the extent to which he can adulterate with impunity the ryots' chief fertilizers, animal manure, oil-cake and fish manures.

Yours faithfully,

PARRY & CO.
Managing Agents.

Fertilisers.

Dear Mr. Editor,—From the *Chronicle* of the 8th inst., page 312, according to Mr Anstead a mixture guaranteed to contain 8% Nitrogen and 15% Phosphoric Acid, can be made up of either :—

(No. 1) Bonemeal 59 parts. Nitrate of Soda 31 parts.
(No. 2) Fish Guano 200 parts. Bonemeal 15 parts. Nitrolim 15 parts. Basic concentrated Bone Phosphate 10 parts.

From manure lists usually circulated amongst planters, the minimum guarantee of these mixtures would be as follows : -

	NITROGEN.	PHOS ACID.
Mixture No. 1	... 7·5%	... 14·4%
Mixture No. 2	... 7·3%	... 9·6%

Even for a scientific adviser, an error in calculation is understandable, but why the recommendation ?

Planters have consistently received the advice of scientific advisers, to value manures—prices about equal—on the basis of the percentage of the commonly known plant foods. Why, in this particular case, does Mr. Anstead claim that the mixture with the smaller percentage of these is the more valuable, and imply that all planters know this ?

Apart from the error in calculation, assuming No. 2 mixture had been equal in plant foods to No. 1, why is the former more valuable than the latter ? Even equal, there must be some reason for this recommendation.

No corrected figures were published in the following "Chronicle," the reason for the delay of this letter. Though Mr. Anstead is on leave, his reply on such an important recommendation will be anxiously awaited by other than planters, as we may then know where we are.

Yours, etc.,

"HIBOU."

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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THE RUBBER GROWERS' ASSOCIATION.

We have received the eleventh report of the Council of the Rubber Growers' Association, and a reprint of the Chairman's speech at the Annual Meeting last April. These take very much the usual form, and since it is an excellent one, both will be found to contain some very interesting and instructive matter.

Dealing first with the report, it shows a continued increase in membership, which is gratifying, though the rate of increase is less than in previous years. There are now 556 companies and 314 individuals on the books of the Association, and the planted acreage which they represent amounts to 1,007,876 acres, with an issued capital of £ 58,115,121.

THE RESEARCH COMMITTEE.

The work of this Committee is probably that which will appeal mostly to South Indian Planters, who will learn with some regret that Mr. Sidney Morgan, the Association's Senior Scientific Officer, has resigned with effect from 30th June next, in order, it is said, to become a Visiting Agent. Mr. Morgan is not known to us personally, but his name is a household word as author of "The Preparation of Plantation Rubber," both editions of which are out of print. We are told, however, that arrangements have been made

for a new work by Mr. Morgan, in collaboration with Dr. Stevens. The Council's original proposal for the Co-ordination and Extension of Rubber Research did not, apparently, meet with approval by the local interests in Ceylon and Malaya. We know also that Dr. Butler, Special Mycologist, is against the idea of research at home, and favours more a scheme of research on the spot so that the Chairman, Mr. Norman Grieve, when he says as he does in his speech "both the local interests and the local Governments are anxious to have control rather than a co-ordinated scheme on the lines we proposed" is perhaps a little overstating the case. Local Governments have quite enough on their hands, without hankering after further schemes which could reasonably be left to others, and it is evident that the decision was come to on the advice of the Imperial Mycologist who gave it, naturally, from the purely scientific point of view. His memorandum recommending the establishment of a Rubber Research Board in Malaya, is, we note, under reply with the Government, and members we are informed will be advised further in due course. With regard to Ceylon, the Research Committee are now negotiating with a view to co-operating with the Ceylon Rubber Research Scheme at present in existence.

THE CHAIRMAN.

The great feature of Mr. Grieve's speech is the question of the Excess Profits Duty, and our attention has especially been drawn to the resolution moved by Mr. C. E. Welldon, and which was unanimously approved. It reads:—

> "That the Association considers that the suggested increase of the "Excess Profits Tax by the Government, from 40 to 60 per cent., "is a distinct departure from the assurance given by the Govern- "ment when the tax was first instituted, and again last year, "when it was reduced to 40 per cent., and requests all its mem- "bers to oppose it in every possible way they can."

Mr. Grieve was wise in refreshing the memories of those present by quoting from a speech of Mr. Austen Chamberlain's in 1919, in which the Chancellor of the Exchequer emphasised the fact that this duty encouraged wasteful expenditure. When £4 out of every £5 would have gone to the State, if not spent by the owner, he was inclined to lavish expenditure on his business. This is the attitude which the home papers generally seem to be taking up with regard to Excess Profits Duty, and it is even more telling than the reminder of Mr. Chamberlain's promise to remove the tax altogether at the first opportunity. Assurances by Governments are, after all, but feeble straws to rely upon, particularly when they are given with cunning reservations by so past a master of the parliamentary art as Mr. Austen Chamberlain.

Mr. Grieve avoids the usual optimistic reference to the future of the industry, at least directly. Indirectly, we may perhaps stretch our imagination, read between the lines, and take hope from his reference to the probable momentous importance of developments of the trade in the next few years. Should the Rubber Roadways Scheme prove an economic success, this alone would considerably increase consumption, he says, and, in the event of some valuable idea emerging from the development competition, which seems to us a rather remote chance, we are permitted to have good ground for hope for an increasing demand, to meet any danger the future may hold of over production.

NORTH MYSORE PLANTERS' ASSOCIATION.

Proceedings of the Annual General Meeting, held at Balehonnur on Monday the 19th April, 1920, at 10 a.m.

PRESENT.—Messrs. R. G. Foster (Chairman), C. S. Crawford, E. W. Fowke, G. R. Frend, C. H. Browne, F. W. Hight, C. H. Godfrey, H. Browne, and W. H. Reed (Honorary Secretary).

Visitors.—Messrs. F. W. Richardson and E. Nixon.

CHAIRMAN'S ADDRESS:—

Gentlemen,—The year under review taken on the whole has been a good one. Though crops have not been large ones they have mostly been up to estimate.

Prices on the coast have fluctuated considerably as a result of the vagaries of exchange and the silver market. Very little of the new crop has as yet appeared on the Home Market, but if all one hears is correct full values should be obtained by those who have shipped. Thanks to a favourable monsoon, the food situation, which at one time promised to be acute, has considerably improved.

Our thanks are due to the Mysore Durbar for having imposed restrictions on the export of grain from the province, and for the importing of Burma rice. Transport of crop has, in some quarters, been a difficulty this year owing to shortage of carts. I fear that with the present high prices ruling for bulls, carts, gram, tyres, etc., that there is little likelihood of rates coming down for some time.

An Extraordinary General Meeting was held to consider the labour situation, and as to whether any good would be done by an enhancement of rates. The consensus of opinion was that the raising of rates was not imperative, and would in no way increase the supply of labour, and that we in North Mysore, with our cheaper grain, have an advantage which more than makes up for any difference in wages paid by other districts recruiting in South Canara. During the year, the Magisterial powers of the Koppa and Mudigere Amildars have been removed. This is much to be regretted, and it is to be hoped that these powers may be restored, for, with the prospect of having to pay endless visits to Tarikere and the long distance to be covered, no one will make complaint, and in consequence crime is rife and likely to increase.

Our roads, once a credit to the District, are going from bad to worse, and the scathing remarks passed on them by Mr. Bannerji when touring the Malnaad as Dewan have had no result. With few exceptions, the material put down and the work done are both bad and ill-timed, and it is hard to believe that any supervision is exercised. It is to be hoped that some of the Senior Councillors may again tour the Malnaad, preferably in July, the experience might possibly bring home to them the necessity of a Committee of Enquiry looking into figures and studying facts, more especially if they have recollections of the excellence of these same roads twenty-five years ago. I now beg to place my resignation in your hands.

HON. SECRETARY'S REPORT AND ACCOUNTS.—Gentlemen,—The number of estates on the register is 38, representing 8.328 acres, of which 105 is under tea, 280 rubber and 7,943 coffee. I have just received an application to put on another 500 acres of coffee. I am glad to say all subscriptions are in except one, and I must thank members for paying up so promptly.

The revenue for the past year has been, from subscriptions Rs. 9,656-6-0, interest on fixed deposit, war bonds, and current accounts Rs. 286-1-0 and a cash balance of Rs. 1,598-3-5 brought forward from last year. I have placed Rs. 500 to the fixed deposit account. The total funds to the credit of the Association are Rs. 2.000 on fixed deposit, Rs. 2,000, 5½% bearer bonds, and a cash balance of Rs. 1,901-5-0.

As we have a long agenda to get through, I will not go into details of various disbursements. Copies have been made of the balance sheet for circulation amongst the members.

BENEVOLENT FUND.—Rs. 80 has been remitted to the Secretary U. P. A. S. I., there is a balance due by subscribers of Rs. 40.

Gentlemen,—in laying the accounts before you for audit and inspection, I beg to submit my resignation of the Honorary Secretaryship. and do not seek re-election. I have completed my sixth year of office, and should be glad for some other member to take up my duties.

ELECTION OF OFFICE-BEARERS—

Chairman	...	Mr. C. H. Browne.
Honorary Secretary ...	...	„ W. H. Reed
Committee	...	„ C. H. Browne
		„ W. H. Reed
		„ H. Browne.
		„ E. W. Fowke.

General Committee of the U. P. A. S. I:—
Messrs. C. H. Browne and W. H. Reed.

SANDERSON WARD.—Mr. C. H. Godfrey was elected to represent the Association on the governing body of the Sanderson Memorial Ward.

D. SSARA DELEGATE.—Mr. W. H. Reed was elected to attend the Mysore Representative Assembly.

KADUR DISTRICT BOARD.—Mr. F. I. Morgan's resignation was accepted. Mr. C. H Godfrey was elected.

LABOUR.—After the subject had been thoroughly discussed, it was agreed to abide by the resolution passed at the last Extraordinary General Meeting, held on the 22nd March, 1920.

PLANTERS' WAR MEMORIAL.—Read circular from the Secretary, U. P. A. S. I., dated 27th March, 1920. It was decided to leave this question to the U. P. A. S. I. delegates.

CURING WORKS.—The idea of starting Coffee Curing and Manure Works at Hassan or Chikmagalur, to be run by planters for planters, met

with approval, but nothing could be done until a cut and dried scheme could be put before the members.

CORRESPONDENCE.—Read letter, dated 12th April, 1920, from the Chief Secretary to the Government of Mysore *re.* the divestiture of the Amildars of Mudigere and Koppa of their magisterial powers. Read letter, dated 13th March, 1920, from the Chaplain of Coorg and Mysore *re.* building a church at Chickmagalur. The majority of members were against the suggestion.

NEW MEMBER.—Mr. A. Harman, representing the Quard Hitloo, Devarkhan and Herrigooda Estates, was duly elected a member.

A vote of thanks was passed to Mr. Hight for the use of his Bungalow.

(Signed) W. H. REED,
Honorary Secretary.

SPOTS ON SHEET RUBBER.

J. C. Hartjens, the well-known Dutch Chemical Engineer, has written an interesting note with reference to spots on sheet rubber in connection with the use of sulphite and bisulphite, which we have pleasure in placing before our rubber growing readers. The article is issued by the Malang Experimental Station, *Archief voonde Rubbercultuur, Jaargang IV, No.* 3, (*April*, 1920), and is illustrated with drawings and photographs which we regret being unable to reproduce here. The spots began to appear during the second part of 1918, on the sheets from an estate situated on the *Malangsch Zuidergebergte*, and showed up as darker, but clear places on the sheets, varying greatly in size and number and distinctly visible when the sheet was held up to the light. Occasionally only a small part of the day's output showed these spots, but at times the greater part or even the whole of the day's crop was affected. They appeared during the whole year.

The spots were not visible on the coagulum, or on the newly rolled sheets, which showed a clear white surface, as contrasted with the well-known blue oxidation spots which occur during the period of wintering of the trees. After from 24 hours to 2 days smoking, the spots were already visible, distinctly outlined, and, as a rule, not varying in size and number as the smoking process continued.

The method of preparation on the estate was as follows :—

The latex was collected in a big mixing-tank, in which 6 cc. of a 10% solution of crystallised sulphite + $\frac{1}{8}$ gr. bisulphite per litre undiluted latex were added. From this tank the latex was drawn off in several coagulation tanks (contents about 275 litres), in which the latex was diluted to 15% and coagulated. The coagulum was rolled the same day, and the resulting sheets soaked in clean water during one night (in big tanks).

Next morning the sheets were rinsed with water and hung up to drip for about two or three hours, and then brought to small smoke-houses, where they remained for 48 hours, after which they were transported to a big smoke-house, where they hung till dry.

The following table shows the changeableness of the phenomenon on different dates:—

Date.	Number of sheets made.	Spotted.	Unspotted.
16-11-19 ...	698	598	100
19-11-19 ...	570	402	168
22-11-19 ...	744	523	221
23-11-19 ...	608	115	493
24-11-19 ...	744	85	659
25-11-19 ...	744	35	709
26-11-19 ...	555	23	532
29-11-19 ...	744	207	537
2-12-19 ...	630	28	602
3-12-19 ...	630	27	603
4-12-19 ...	744	122	622

Experiments were made in various directions to discover the effect of disinfection, the influence of soaking the sheets during the night in comparison with not soaking, rolling the same day versus rolling next day, the influence of relative humidity of the small and big smoke-houses, the influence of the use of sulphite and bisulphite, the influence of soaking the sheet in different ways when using sulphite and or bisulphite and enquiry as to whether the spots were more prolific in the early months of the year.

Resume of Results.

Dr. Hartjens concludes from these experiments that the use of sulphite or bisulphite, or of a combination of both, may cause peculiar spots on sheets, varying from day to day in size and number, even though uniformly prepared. When using small quantities of these chemicals, for instance $\frac{1}{8}$ gr. bisulphite per litre of latex, they do not as a rule appear, but with larger amounts such as cc. of a 20% solution of crystallised sulphite or $\frac{1}{4}$ gr. bisulphite per litre of latex the spots become evident. Especially when using $\frac{1}{4}$ gr. bisulphite, they appear very distinct and dark.

2. The spots are not visible on the coagulum or on the unsmoked sheets, but distinctly visible after one or two days smoking. As a rule, the spots correspond on both sides of the sheets, and do not appear only superficially. They entirely penetrate the sheets, and the moisture content of the spotted part in wet sheets is lower than the unspotted part.

3. The spots may appear at any period during the year, and do not seem to be connected in any way with the well-known oxidation spots, which occur during the wintering of the trees, or with other enzymatic discolourations or infection of the latex.

4. Unequal smoking by more or less moist smoke plays no part.

5. Milling the coagulum the same or next day, attended with soaking or not soaking the sheets during the night, is of secondary importance.

6. Soaking in different ways has some influence on the intensity of the appearance of the spots; soaking under heavy pressure, for instance, increases the number of spotted parts. When the sheets are soaked in such a way that they do not cover one another, the spots continue to appear, and to about the same degree as when soaking is done according to the usual estate practice.

7. The condition of the latex has influence on the phenomenon; when more curdling or early coagulation of the latex takes place, a larger number of the sheets are spotted and the spots are larger and darker.

8. Finally the learned author says that these spots may be prevented by the use of anti-coagulants other than sulphite, and by reducing or avoiding the use of bisulphite.

FERTILIZER ACT.

(Continued from last issue.)

The chief proposals of the Fertilizer Act are, (1) to completely exclude certain fertilizers from the Act. (2) To restrict the sale and manufacture of other fertilizers by license.

Included in the excluding schedule are, at present, animal manure, oil-cakes, and raw bones.

Oil-cakes or poonacs form the basis of the average manure mixture. From petty dealers in the bazaars, ryots are large purchasers of poonacs for cattle food and manure. Though the Act is for the benefit of the ryot, one of largest used raw materials is excluded from the Act.

Page 309, Vol. XV, No 19 . . . "it will probably be found necessary to include "Raw" Fish and Milled Fish" . . . in the excluding schedule, the reason being, the business is in the hands of large numbers of petty dealers. This is the material which, in 1913-14, revived the agitation for legislation, and is now suggested may be excluded from the provisions of the Act.

Fish Guano is to be included. Incidentally, apart from one European firm engaged in the manufacture of Fish Guano, the bulk of the business is in the hands of large numbers of petty dealers, and practically all the Fish Guano manufactured comes from the dozens of small factories dotted all along the West Coast.

Also, the small factory turning out Fish Guano turns out Fish Manure. Fish Manure is manufactured solely for manurial purposes. Fish Guano is a by-product, the residue from the manufacture of Fish Oil, a more valuable product than Fish Guano, and one for which there is a large market.

Any and everybody can manufacture and sell Fish Manure, or what, after adulteration, is called Fish Manure. The manufacturer of Fish Oil, if he wishes to dispose of the residue as Fish Guano, must take out a license as a manufacturer or retailer of fertilizers. Should this be done, under a section of the Act, a special invoice must accompany each sale, in which is to be stated the percentage of Nitrogen, (*a*) Organic, (*b*) Inorganic, Phosphate, (*a*) Soluble, (*b*) insoluble, plus, under a certain subsection. . . . . (5) "And in the case of Fish Guano and Dried Fish, The percentage of mineral matter." . . .

Unless both Fish Guano and Fish Manure are included in the excluding schedule, it is difficult to imagine how the "large number of petty dealers" on the West Coast, are to comply with such provisions.

Failure to do so is an offence under the Act, for which the license can be cancelled. If Fish Manure is to be excluded and not Fish Guano, there is one obvious way out of the difficulty. The manufacturer of Fish Oil can adulterate, to any extent he considers necessary, his by-product Fish Guano, and offer the material as Fish Manure. This will save the trouble of being licensed, and to comply with the provisions of the Act. Incidentally, a valuable manure will disappear off the market. Also the Act is to prevent adulteration, and for the future benefit of the ryot,

Nitrate of Potash, Indian Saltpetre is to be included in the Act. The whole of this industry is in the hands of petty makers of a special and low caste. Several hundreds of tons of both Crude and 70% Saltpetre are annually used as manure. Apparently, this petty and ignorant class of saltpetre manufacturers will become fertilizer manufacturers.

There will be a legal deadlock here, as already the manufacture of saltpetre is licensed and controlled by the Salt and Abkari Department. Under the Fertilizer Act, a license to sell will be necessary, with the usual invoice stating the percentage of Nitrogen and Potash.

A glance at Schedule 11, page 309, Vol. XV, No. 19, shows the suggested list of Fertilizers to be included under the Act. This is an exact copy from the draft act submitted by Government for expert opinion and criticism.

Either the list was hurridly drafted, or the compilers had slight knowledge of fertilizers in general universal use, as there are several important omissions. Why have such well known manures as Nitrate of Lime, Muriate of Potash and Kainit been left out, when such rare manures as Sulphate of Lime have been included? There are other omissions in the list, but these are not so well known.

(To be continued).

INDIAN TEA ASSOCIATION.

ABSTRACT OF PROCEEDINGS OF THE MEETING, HELD AT CALCUTTA ON THE 27TH APRIL, 1920.

LONDON LETTERS.—Letters, dated 25th and 31st March, from the Indian Tea Association (London), now came up for final consideration and disposal. The chief topics adverted to in them were:—

(*a*) *Scientific Department: New Officer.*—The London Association enquired whether applications from married men for the vacant posts in the Scientific Department were to be entertained. The London Committee were doing their utmost to find single men for the positions, but they were anxious to know the exact situation as regards taking on a married man if it was not possible to obtain a single one, and if a suitable married candidate happened to be available.

It was decided to refer the matter to the Scientific Department Sub-Committee for answer, with the remarks that it would be a pity to miss a good officer simply because he happened to be married, and that, although the Committee thought it was advisable for a man coming out on a first agreement not to be married, especially with the increased scale of prices now prevailing, at the present time, in view of the dearth of qualified scientists, the veto should be waived.

(*b*) FOOD CONTROLLER'S SCHEME.—It will be remembered that, as stated in the proceedings of 19th March last, it was decided to cable to the London Association regarding the attitude of the

Food Controller with reference to the extra farthing which he had agreed to pay on account of the additional cost of production in connection with 1918 contract. In the case of Indian estates, the Food Controller claimed that he was entitled to pay in London, whereas the Committee's contention was that such concerns were entitled to payment in Calcutta in rupees calculated at 1*s.* 4*d.* and paid at the current rate of exchange. The London Association had been asked to take the matter up with the Food Controller, and, in the letter of 31st March it, was stated that the London Committee were in communication with him on the subject.

The Committee now decided to telegraph to the London Association asking information as to the present position of this matter.

DIVERSION OF STEAMERS FROM LONDON TO OUTPORTS IN THE UNITED KINGDOM.—In the proceedings of the last meeting, held on the 12th April, it was stated that the Calcutta Liners Conference were to be approached with a view to asking the Anchor Brocklebank Line to delete a clause from their bill of lading which, it was alleged, was contrary to the stipulations of clause 8 of the Tea Agreement. By the latter clause, the lines undertook to carry tea on the terms and conditions of the bill of lading for the eastern trade. It was believed that the Anchor Brocklebank Line had added the clause complained of without the consent of the signatories to the tea agreement.

A reply dated 20th April had now been received, in which the Conference suggested to the Committee that the question should be referred to London for settlement, as the agreement was entered into there. In this connection the Committee noted that the matter had already been taken up by the London Association, and they directed that copies of the letters exchanged on the subject with the Liners Conference should be forwarded to them, for information and for necessary action.

HOMEWARD PASSAGES.—This question, which had occupied the anxious consideration of the Committee at their two last meetings, again came up for discussion in connection with a reply to the Committee's latest representation on the matter to the Bengal Chamber of Commerce. The full text of the Committee's letter was printed in the account of the proceedings of April 12th. The Chamber's reply was in the following terms :—

I am directed to acknowledge the receipt of your two letters (No. 410 O, dated 31st March and No. 463-O, dated 14th April) with reference to this question.

In reply, I am to say that, as is I think known to your Committee, this Chamber telegraphed to the London Chamber urging that body to take prompt action in the matter of the requisition of the German steamers for military purposes. This message was supported by the following Chambers, namely, Bombay, Madras, Upper India, Cochin, Cocanada, Chittagong, Narayanganj, and Tuticorin. The steamers in question have been, in the meantime, released for civilian passengers.

The Committee of this Chamber have now cabled to the London Chamber the following message, which they are inviting the other Chambers to support :—

Following for East India Section begins : Passages : referring my 976 of 19th March no information yet available sailing dates German steamers. Bengal Chamber trust you will again strongly urge authorities declare dates and expedite despatch of steamers greatest possible extent. Position here still very serious and it is imperative more accommodation be provided forthwith.

As will be clear from these messages, the Committee of the Chamber are fully alive to the fact that the position is very serious. They sympathise with, and realise the situation of, those tea garden managers and assistants, and their wives and families, to whom you refer, and who are experiencing difficulty in getting out of the country. They do not, however, feel that matters would be improved, or that indeed any useful purpose would be served, by their attempting to intervene as between the steamship companies and the passengers. The steamship companies are admittedly doing their best in circumstances of extraordinary difficulty. In fact these circumstances are such as to make it inevitable that charges of unfairness, favouritism, and so on, should be brought against them. But it was agreed by the commercial community generally, at the conference of Chambers, held in Calcutta as recently as January last, that no Government control ought to be imposed. In other words, the agreement of the steamers should be left to the steamship companies without outside interference. With this agreement the Committee of this Chamber are in accord at the present time, as they were in January. The intervention of the Government last year was not successful, and the Committee feel that any intervention on the part of the Chamber now would tend only to accentuate and to intensify existing difficulties. Holding this view, they regret that they do not see their way to accept, and to act upon, the suggestions made in the second paragraph of your letter.

The Committee now discussed this letter. They could not consider its terms satisfactory, particularly with reference to the comments in the last paragraph regarding the Association's remarks on the very great dissatisfaction prevailing among the general public in regard to the allotment of accommodation. It was true that the position was one of extreme difficulty, and that the circumstances were such as to make it inevitable that charges of unfairness should be brought against the steamship companies. This being so, it seemed to the Committee that it was to the interest of the companies, just as much as to the advantage of the travelling public, to obtain some system which would give less dissatisfaction than the present one.

Publication of the lists of registration from time to time was, the Committee considered, very necessary. Consultation among the steamship companies might be useful, with particular reference to the lists of passengers registered with each of them; and it might be worth while considering whether, in order to reduce duplicate and triplicate registrations, a deposit should not be required at the time of registration. The Committee considered it very necessary that some measures should be adopted with a view to avoiding, in 1921, a state of things such as had occurred in 1920. They decided accordingly to address the Chamber again in the matter, and to ask the latter to approach the Secretary of State for India, and urgently represent to him that passports should be withheld next cold weather from persons desiring to proceed to India but who were unable to produce satisfactory proof that they had legitimate reasons, other than those of pleasure, for visiting the country.

The following is the text of the letter which the Committee subsequently addressed to the Chamber:—

I am directed to acknowledge the receipt of your letter on the above subject, No. 1250, dated 16th April, and to say that the Committee of this Association much regret they cannot consider its terms as satisfactory. They have noted the cable despatched by you to the London Chamber, pressing for more accommodation to be provided forthwith. They have also considered the position as explained in paragraph 4 of your letter with reference to their comments on the very great dissatisfaction prevailing among the general public in regard to the allotment of accommodation.

It is true that the position is one of extreme difficulty, and that the circumstances are such as to make it inevitable that charges of unfairness should be brought against the steamship companies. And, this being so, it seems to the Committee that it is to the interest of the companies, just as much as to the advantage of the travelling public, to obtain some system which will give less dissatisfaction than the present one. This could surely be contrived without interference by the Chamber: for the Committee are unwilling to believe that the steamship companies would resent, as an interference, what could only be a suggestion or a recommendation. It may be said that the Association should themselves carry the matter in this direction, but it seems to the Committee that it is essentially one for the Chamber, particularly in view of the representations which the latter have already made on the subject of homeward passages.

Briefly put, it is idle to disregard the fact that allegations are widely made that passages are not allotted strictly in accordance with priority of registration. The steamship companies could easily protect themselves from the repetition of such allegations if they published lists of registrations from time to time. This means, no doubt, a departure from their ordinary business methods, but the circumstances are entirely exceptional and require special treatment. The Committee understand that, under the system of Government control in force last year, the steamship companies were permitted to retain for allotment by themselves 10% of all the accommodation, and there could be no possible objection to a similar arrangement—that is to say, to the holding of a percentage in reserve—if the suggestion to publish the lists of registered passengers be adopted. This system would at least give passengers some idea as to the place they occupy in the list, and it would, the Committee believe, tend to reduce very considerably the profound dissatisfaction that has prevailed during the past few months. In view of the special circumstances, also, it would, the Committee presume, be of advantage if the different steamship companies consulted together with particular reference to the lists of passengers registered with each of them; and, it might be worth while considering whether, in order to reduce duplicate and triplicate registrations, a deposit should not be required at the time of registration.

In making these suggestions, the Committee have in view not only the position as it is this year, but also what is likely to happen next year. It is understood that bookings for the homeward season in 1921 are already very heavy, and the Committee do feel most strongly that a serious endeavour should be made to devise some system which will give fewer openings for the notorious instances of undeserved preference that have been seen this year. The Committee of the Chamber will, it is felt, recognise how galling it must be to Europeans in the mofussil to see themselves passed over month after month while others, who have to their personal knowledge registered long after they did, or who have been in the country only a short time, secure passages without apparent difficulty. Some of such occurrences may be due to the method of registering. It may be, for instance, as has been stated, that a person registered for a particular date drops out of the list altogether, if it so happens that there is not enough accommodation on that date to go round. But whether this is so or not is little known to the public. That is one of the grievances which the public have, that the steamship companies have not in the past taken them into their confidence, and the Committee's suggestion that lists should be published would go far to remove this grievance.

There is one other matter to which the Committee desire to refer. The position is going to be very difficult next year, and it is imperative that the interests of regular residents in this country should not be sacrificed, as has so often happened this year, to those of cold weather trippers. To obviate this, the Committee suggest that the Chamber should approach the Secretary of State for India, and urgently represent to him that passports should be withheld next cold weather from persons who desire to proceed to India but who are unable to produce satisfactory proof that they have legitimate reasons, other than those of pleasure, for visiting this country. Admittedly, if any such regulation were adopted, all applications for passports would require careful, possibly invidious, scrutiny. But this would be a small matter if the end aimed at were achieved. In a letter dated 23rd April, addressed to the European Association, and published in the press of 29th idem, the Government of India write :—"The steamer companies will no doubt give preference, as far as "possible, to Europeans who have been long in the country." There is widespread apprehension that, when next year comes, it will be found that this policy is not being adopted, as it should be; and that cold weather visitors will continue to receive return passages in preference to Europeans whose business lies in India. And, it is therefore all the more necessary that such measures should be taken now as will reduce to a minimum the possibility of such occurrences.

REFUND OF TEA CESS ON CHESTS SHORT-SHIPPED OR RELANDED.—The following letter, dated 12th April, had been received from the Collector of Customs :—

No. 675, dated Calcutta, the 12th April, 1920.

From—The COLLECTOR OF CUSTOMS, Calcutta.

To—The SECRETARY, Indian Tea Association.

It has hitherto been the practice in this office to grant to exporters of tea a refund of the cess paid by them on the chests short-shipped to or re-landed from the vessel on which it was originally intended to ship them, even though the re-land application or short-shipment notice had been filed after the period of 5 days prescribed by section 140* of the Sea Customs Act.

"Tea cess" being a "Customs duty" by section 3 of the Indian Tea Cess Act, the relaxation is opposed to the law; and, now that this fact has come to notice, the practice must be discontinued.

The Committee agreed that five days was a reasonable and sufficient time for giving notice of short-shipment or re-landing. They directed that copies of the letter should be sent to members as a circular.

The letter was now to be recorded.

Notice of non-shipment or re landing, and return of duty thereon.

If any goods mentioned in a shipping bill or manifest be not shipped, or be shipped and afterwards re-landed, the owner shall, before the expiration of five clear working days after the vessel on which such goods were intended to be shipped, or from which they were re-landed, has left the Port, give information of such short-shipment or re-landing to the Customs-Collector.

Upon an application being made to the Customs-Collector, any duty levied upon goods not shipped, or upon goods shipped and afterwards re-landed, shall be refunded to the person on whose behalf such duty was paid; provided that no such refund shall be allowed unless information has been given as above required.

*See Custom Act, Section 140.

SANITARY ARRANGEMENTS ON ESTATES.

The proceedings of the last meeting of the Committee of the Indian Tea Association include, as an appendix, copies of a printed leaflet on the "Antipolo" system of privies in use in the Philippine Islands. We reproduce this leaflet, together with a note on another privy system, known as the "Common-sense pit privy."

The Anti-Hookworm campaign in South India, on which we have already published the initial articles by Dr. Paul, must inevitably include some recommendations concerning the sanitary arrangements on S. Indian Estates. It will be interesting, later, to compare them with those dealt with below:—

APPENDIX.

Description of the *Antipolo* system of privies in use in the Philippine Islands.

At the present time, the Philippine Health Service has undertaken a vigorous campaign to extend throughout the islands the sanitary disposal of excreta. Privies of a special type on what is called the "Antipolo" system were introduced in 1916, nearly 7,000 having been constructed by the end of the year. This number had increased to nearly 43,000 by the end of 1917. This system, which is approved by the Health Service, is considered to comply in a satisfactory manner with the minimum of sewage disposal efficiency allowable. A vigorous effort is now being made to have a privy of this kind established in every house in the islands not already possessed of some other approved system. In many parts of the islands the installation of an "Antipolo" privy is now compulsory in the case of all new houses, the cost of erection of which is not less than Rs. 150. If the increase in the establishment of these privies continues at the same rate as in 1917, in a few years practically all the people living in towns or large villages will have a sanitary method of disposal of excreta, and the control of preventable filth diseases, such as cholera, dysentery, typhoid fever, hookworm, etc., will be greatly simplified.

2. The "Antipolo" type of privy consists of (*a*) a covered pit, (*b*) a platform or seat with a pipe connected to the pit, and (*c*) a ventilating tube. The capacity of the pit varies; in the case of a privy to accommodate five persons or less, it should have a capacity of about 212 cubic feet (6' 6" x 6' 6" x 5' deep). A further 36 cubic feet should be added for each person in excess of five. If the soil is sandy or soft, the sides of the pit should be lined with wood or bamboo or, where the expense can be met, with brick, stone, iron, concrete or other permanent material, to prevent the earth falling in. The top of the pit should be securely covered with wood or bamboo overlaid with at least six inches of clean earth, or, preferably, with concrete, stone or iron. The pipe connecting the platform or seat to the pit may be of galvanized or cast iron, reinforced concrete or vitrified or burned clay drain-piping or other permanent material, and should have a minimum interior diameter of eight inches. All the joints in this pipe should be made impermeable. A ventilating pipe two or three inches in diameter is taken from the pit through the platform, and erected to a height of at least three feet above the eaves of the nearest house. A cap of wire gauze should be fastened securely over the top of the pipe, to prevent the exit or entrance of mosquitoes and flies. Where the ground is low and tends to be flooded, the brink of the pit should be elevated above the level of the soil with stones, clay or earth, firmly held in place with iron, wood or bamboo or other permanent material. The elevation of the brink should depend upon the locality, and should be sufficiently high to prevent the pit from being overflowed. The thickness of the elevated brink, if the material used is earth

or clay, should be twenty inches, to prevent outside water leaking into the pit.

3. Pits should, if possible, be dug to such a depth that water oozes to a depth of from three to five inches. When, on account of the location of the ground, water does not percolate, the bottom of the pit can be made absorbent by pouring a bucket of water into the pit through the soil pipe occasionally. Water quickens the processes of putrefaction of the excrement, without giving rise to offensive smells. Experience has demonstrated that, by keeping the parts of the "Antipolo" privy in good repair, the upper part of the pipe connected with the platform or seat clean by occasional scrubbing when necessary, and the bottom of the pit just covered with water, the privy will be odourless, and its contents be thoroughly digested and safely absorbed. Should the water in the pit, through carelessness or negligence, become a source of mosquito propagation, the nuisance may be remedied by pouring into the pit about one pint of kerosene for the standard size privy and a proportionately larger amount for larger privies. The cost of installing this type of privy will depend upon the materials used. In the Philippines, the cost of constructing these privies is about Rs. 10 to Rs. 20.

4. As regards the selection of sites for privies of the "Antipolo" type, it must be pointed out that the risk of contaminating adjacent water-supplies must be avoided. In no circumstances should a privy of this kind be constructed within 100 or 150 feet of a well or tank the water of which is used for drinking purposes. Provided this precaution is taken, the "Antipolo" privy offers a solution of the problem of refuse disposal in the smaller towns and rural areas of Bengal, which is worthy of consideration and careful experiment.

NOTES ON "PIT SYSTEM" OF PRIVIES BY DR. R. G. GRIFFIN, L.M., L.R.C.P., L.R.C.S., SPECIAL OFFICER ON ANTI-HOOKWORM CAMPAIGN, BENGAL.

(1) Pit system of privy applicable to the Hill districts, etc.

SITE.—The only danger is of fouling the water-supply, and, in consequence, the site should be on high ground below, and not within 30 yards of the water-supply and flood, so that drainage from the pit goes in a contrary direction.

Pits which are difficult of access, or which expose the users to view, should not be used.

SOIL.—The site should be easily approached and accessible. Porous soils are the most suitable. The upper level of the sub-soil water should not be tapped. If excess of water remains in the pit, the contents become putrid and offensive.

DEPTH OF PIT.—Ten feet is sufficient; a very deep pit may fall in.

NITRIFICATION OF STOOLS IN PIT.—This is caused by bacteria which split up the fæces into component elements, the liquid results of which pass into the soil, leaving the solid material in the pit. As any excess of water stops the action of these required bacteria, pits should be lined. For the same reason, disinfectants should not be used.

Nitrification takes place only in the upper layer of the soil, but not below 9 or 10 feet.

NUMBERS OF USERS PER PIT.—Up to eight people is the maximum satisfactory number, allowing time for efficient nitrification. For every family, a separate pit should, if possible, be provided. For groups of two or three houses, separate latrines, marked for males and females, should be allotted.

SQUATTING PLATFORM.—The "Common Sense" type is recommended, as it completely prevents the exit of larvæ from the pit, and is easily erected and kept clean; but any type of pit privy is beneficial, as the greater number

of the hookworm eggs are prevented from developing, and is suitab'e also in preventing the spread of other dirt diseases. A fly-proof cover may be fitted.

OTHER DETAILS.—The roof should be high enough to permit of easy entrance, and should be waterproof. There should be an opening of 2 feet all round between the roof and walls, to allow sufficient ventilation.

A drain round the raised latrine area is required, to carry off roof drip and surface water. The surface around the pit should be well rammed and sloped away from the latrine. If the squatting platform is below the level of the ground, it tends to become damp and difficult to keep clean.

MAINTENANCE.—No water-supply is necessary for the pit privy. It can be quickly erected, and a very small staff is required. The upkeep expenditure is very small, and the digging of pits can be carried out in the cold weather, when labour can be more easily spared. One sweeper can look after a great number of these latrines. Simple pit privies have been erected on some estates in the hill areas. Managers report favourably on them, and consider that little difficulty will be experienced in getting the labour force to use them extensively.

[NOTE.—If the pits are over-worked, nitrification will be incomplete, and they will tend to choke much more quickly.]

(2) "Common Sense" Pit Privy,—as designed and recommended.

ADVANTAGES—(1) It is the cheapest form of privy capable of preventing the escape of larvæ hookworm from the pit.

(2) It can be made by any good mistry.

(3) The trap can be inspected and cleansed, and refilled with anti-parasitic fluid with the minimum of expense.

(4) It is transportable, and can be moved from one area to another without extensive erection expenses or liability of breakage being incurred.

(5) No wood work is used in the ground structure, and, in consequence, the white-ant pest is eliminated.

(6) It should last for an indefinite period.

(7) A couple of sweepers could look after a hundred to a hundred and fifty of these privies.

The squatting platform is made of reinforced concrete as shown in the sketch,* and contains a trap under the vent which holds an anti-parasitic fluid for preventing the escape of hookworm larvæ.

Four legs or extensions are made on the platform; these assist in distributing the weight of the slab over a larger area, and do away with the necessity of having to utilise supporting beams of timber or other materials.

The edge of the trap is sloped back from the vent, and so designed that the drip from overhead falls beyond the trap.

ERECTION OF PRIVY.—The margin round the pit for a 6" depth should have a thick layer of damped slaked lime or waste oil applied, which will seal the joint when the platform is placed *in situ*. Other items are obvious on reference to sketch.

To this I attach general notes on the use of pit privies and their advantages, etc.

The inner surface of trap must be cement furnace. Crude kerosene oil or Sodium Hydroxide, 10 per cent. solution, has been found by experiment to be the best for use in trap.

A piece of tin, shaped into form of gutter, can be placed so as to direct the urine flow to centre of pit, where stools are pyramided. Urine delays the development of the ova (eggs) of hookworm, and, in consequence, in a few

* Not reproduced.

days they are buried by further fresh fæcal material and are cut off from oxygen and will not hatch out, so that a further security is added with practically no expense.

In districts where Dooras are scattered around the hill sides, two sweepers should pay weekly inspections, carrying some lime wash and anti-parasitic oil or other fluid supplied. The rammed rubble at the sides, and the platform, should be white-washed and the trap inspected and, if necessary, refilled.

COST.—A rough estimate of cost of a "Common Sense" privy is furnished below:—

For a platform, say 10 sq. feet x 2 inches thick—

Cement	about	...	...	...	2	0 0
Broken metal	,,	...	...	...	0	6 0
Sand	,,	...	...	...	0	1 0
Rods	,,	...	...	...	0	12 0
Labour	,,	...	...	...	1	4 0
Digging	,,	...	...	...	1	0 0
Ramming, etc.	,,	...	...	...	0	11 0
Kutcha superstructure		...	...	...	1	14 0
				TOTAL Rs ...	8	0 0

N.B.—If kerosene or Sodium Hydroxide Solution is used in trap, the surface of same may be treated with "Pudlo" preparation or other substance, to prevent absorption of oil.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents).

Calicut, 24th May, 1920.

Dear Sir,—Now that Planters are looking for fresh markets for Tea, we have much pleasure in announcing that, as Agents of the AMERICAN & INDIAN LINE BRANCH SERVICE, which gives a monthly shipping opportunity from the Malabar Coast to U. S. A., we are in a position to quote through rates of freight on tea to all the important interior points in Canada, and shall be pleased to give further details on application. It is advisable to bear in mind that, when negotiating sales to Canada, it is better to sell in lots of not less than 20,000 lbs. at a time, as this quantity constitutes a car load on American and Canadian Railways, and cargo, if shipped by the car load, goes at a cheaper rate of freight than for smaller quantities.

We are also in a position to quote rates on rubber to many interior points. A car load quantity in the case of rubber is 36,000 lbs.

Yours faithfully, *-per pro.* PEIRCE LESLIE & Co., Ltd.,
K. LANGLEY, Manager.

Planters' War Fund

Mundakayam Planters' Association,
Mundakayam P. O., May 22nd, 1920.

SIR,—With reference to the decision of the Executive Committee, U. P. A. S. I., to offer Rs. 50,000 from the Planters' War Fund to the general scheme of Nursing Homes put forward by Lady Willingdon, it was resolved, at a Committee Meeting to-day, that this Association strongly protests against the unwarranted haste in which the allotment of the Planters' War Fund has been made, and urgently request that the Executive Committee be asked to cancel their decision until the views of all subscribers have been obtained.

Yours faithfully,—(Signed) F. H. MOULTON,
Honorary Secretary, Mundakayam P. A.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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RUBBER IN SOUTH INDIA.

The 1918 Statistics.

In October last year, it will be remembered the Secretary, U. P. A. S. I. circularised all Rubber planters in South India asking for figures relating to the production of rubber in Southern India. It has taken some seven months to get these figures in, and even now they are incomplete, though, I am glad to say, the results are far better than was the case with the Tea Statistics, and it needs only a slightly increased number of Rubber Planters to fill up the simple forms which have been sent to them this year to put us well on our way to perfection. By this I mean that, although the figures now published are incomplete, the number of European-owned estates which failed to send in returns is a small one—only some 2 or 3 estates not having done so. I have also succeeded in getting in figures from some 5,000 acres of rubber which do not belong to the U. P. A. S. I, and I express here the thanks of the Secretary to those Superintendents who thus voluntarily sent in returns. I may say then, with some authority, that the figures certainly attain a standard of accuracy warranting inclusion among what are generally termed "reliable statistics."

Before we proceed to examine the figures, I have something to say about another aspect of this question. It is that we had no past data to go upon except the excellent figures collected by Mr. Mackie in 1916. These, however, treat only of the acreage planted, and the information gained during the past seven months proves how accurate they were. For the future we must be content with looking at our records as commencing from January 1917 only. When sending out forms for 1918 opportunity was taken to collect figures of the planted acreage as at 31st December 1917, so that they are carried on from where Mr. Mackie left off. I must draw attention here to that gentleman's estimate of 44,462·88 acres planted as at 31st December 1916, and our own figure of 44,463·10 acres planted at 31st December 1917. In the latter year there was practically no extension, and what there was did no more than counterbalance the acreages abandoned in this and previous years. Knowing this, the remarkable similarity of the figures becomes a matter for congratulation on the accuracy of the information, rather than one of suspicion.

For the convenience of setting the figures up in the pages of the Chronicle, I have divided the information up into groups, which I will comment upon separately :—

TABLE I.

YEARS OF PLANTING.

(1) Year.	(2) Planted acreage.	(3) Total at 31st December.
1904 & previously ...	912·79	912·79
1905 ...	1841·54	2754·33
1906 ...	5709·39	8463·72
1907 ...	5486 90	13950·62
1908 ...	5812·25	19762·87
1909 ...	2245·15	22008 02
1910 ...	5836·68	27844 70
1911 ...	8178·24	36022·94
1912 ...	4260·57	40283·51
1913 ...	2840 51	43124·02
1914 ...	1095·26	44219·28
1915 ...	129·52	44348·80
1916 ...	114·08	44462·88
1917 ...	System changed.	44463·10
1918 ...	1203·54	45666·64
1919 ...	In process of collection.	

I have marked 1917 as the year in which the system changed, because Mr. Mackie's figures compiled prior to that date did not take into account the abandoned areas. From 1918 onwards, the term "planted acreage" means the acreage remaining after deducting abandoned areas from the new extensions, the total at 31st December in any year (Column 3) thus showing actual planted area which was being worked.

TABLE II.

DISTRICT ACREAGE AND CROPS.

(1) District Planters' Association through which estates are affiliated to the U. P. A. S. I.	(2) Acreage planted at 31st Dec., 1918.	(3) Acreage tapped and crop secured for the year ending 31st December, 1918. Acres.	(4) Lbs.
Wynaad ...	61·47	Nil.	Nil.
Central Travancore (Peermade) ...	112·00	112·00	10,016
Nilgiris ...	134·00	52·00	6 615
North Mysore ...	180·00	80·00	8,632
Coorg ...	779·00	590·00	21,013
Kanan Devans ...	819·00	549·70	73,485
Anamallais ...	1071·00	480·00	48.628
South Travancore ...	10081·85	8114·96	1.883,510
Mundakayam ...	12164·97	10378·56	2,132,944
West Coast ...	20263·35	15715·39	2,694,440
Total for South India...	45666·64	36071·91	6,879,283

The only remark I have to offer on this table is that the acreage on the books of the U. P. A. S. I. (Books of Proceedings 1919, page 3) last year was 40.706. The above table, therefore, includes some 5,000 acres of rubber not affiliated with the Association. I understand that the Governments of the Native States are collecting details of Indian-owned rubber, of which there are only small acreages in British India. Some of the Indian-owned rubber in Native States is included in our figures, but by no means all of it. Later on, when the Durbars concerned are in a position to do so, it is to be hoped there will be some collaboration with the U. P. A. S. I., so that reliable figures comprising both Indian and European-owned estates may be available.

TABLE III.

STATEMENT SHOWING GEOGRAPHICAL DISTRIBUTION OF RUBBER ESTATES IN SOUTHERN INDIA.

		(1) Acres Planted.	(2) Tapped.	(3) Crops in 1918, lbs.
(1) British India	Wynaad ...	61·47	Nil	Nil
	Nilgiris ...	134·00	52·00	6,615
	Malabar ...	10967·25	7744·16	1,192,426
	Anamallais ...	1071·00	480·00	48,628
	Total...	12233·72	8276·16	1,247,669
(2) Coorg		779·00	590·00	21,013
NATIVE STATES:—		Acreage Planted.	Tapped.	Lbs.
(3) Travancore ...	Mundakayam ...	12164 97	10378·56	2,132,944
	Kanan Devans ...	819·00	549·00	73,485
	Central Travancore (Peermade) ...	112 00	112 00	10·016
	South Travancore ...	10081·85	8114·96	1,883.510
	North Travancore ...	4268·35	3725 62	778,763
	Total ...	27446·17	22880·14	4,878,718
(4) Mysore ... North Mysore ...		180·00	80 00	8,632
(5) Cochin State		5027·75	4245·61	723,251

	SUMMARY.			
(1)	British India ...	12233·72	8276·16	1,247.669
(2)	Coorg ...	779·00	590·00	21,013
(3)	Travancore ...	27446·17	22880·14	4,878,718
(4)	Mysore ...	180·00	80·00	8,632
(5)	Cochin State ...	5027·75	4245·61	723,251
	Grand Total...	45666·64	36071·91	6,879,283

In the above table, the term "North Travancore" indicates these estates which. although in Travancore, are affiliated with the U. P. A. S. I. through the West Coast Planters' Association.

TABLE IV.

LABOUR EMPLOYED

Districts.	(1) Estate Labour Perma-nent.	(2) Outside Labour Perma-nent.	(3) Outside Labour Tempo-rary.	(4) Total.
Mundakayam ...	6,758	123	395	7,276
West Coast ...	6 005	2,999	3.544	12,548
South Travancore ...	4,854	360	748	5.962
Other Districts ...	980	150	465	1,595
Total ...	18,597	3,632	5,152	27,381

The headings in the above table perhaps need some explanation. In the terms of the reference made by the Imperial Department of Statistics, "Estate Labour, Permanent" includes all labour under long period contracts, and all persons living on the Estate who are dependent on the Estate for their livelihood. "Outside Labour, Permanent" includes labour not being on the Estate, but who nevertheless are dependent on the Estate for their livelihood. "Outside Labour, Temporary" includes all labour not coming under Columns 1 & 2. The total number of days work done by Temporary Labour is divided by 300 (average number of working days in the year), and the result entered as being daily average of persons employed temporarily.

I am far from claiming absolute perfection for these figures, but I do think that the few missing Estates make no material difference, and we may with confidence use the results as a sound basis for estimating crops, yields per acre, etc. I have purposely refrained from making any deductions here from the information before us. That is not my province, besides, to do so it would be necessary to correlate such information as rainfall, climatic conditions, etc., for any such deductions to be of use. Naturally, in completing a work of this kind, one is first proud of it, and afterwards a little sceptical. It is because of this that I would appeal to planters to hurry along with their 1919 figures, from which I hope, when summarising them, to arrive at really finished results. So far, we may say, we have laid the foundations; let us consider the year 1919 as the first layer of bricks—if this metaphor could constantly be kept before the eyes of the planters of South India, I do not doubt the final stability of the building. To say that reliable statistics have become one of the important things of life is to utter a platitude, but platitudes have the habit of containing profound truths. Let us not forget it,

EDWIN VINCENT,

ANNUAL REPORT OF THE DEPUTY DIRECTOR OF AGRICULTURE, PLANTING DISTRICTS FOR 1919–1920.

STAFF AND OFFICE.—Throughout the year I have been in charge of the Planting Districts Section, and no addition to the staff has been made. My head-quarters were transferred from Bangalore to the Agricultural College, Coimbatore, on 1st April, 1919, where a temporary office was found for me and my clerical staff. No permanent offices have yet been provided. A clerical staff of two clerks and one typist was sanctioned, and they all joined duty during the year.

As usual, a large number of letters have been received and despatched during the year. Regular correspondence with planters on agricultural subjects, advice as to manurial systems, reports upon estates visited, and treatment of diseases continue to be an important part of my duties, which occupies my full time when at head-quarters and annually increases.

2. PUBLICATIONS.—Articles on the coffee planting industry in South India and the prevention of soil erosion on tea estates have been written for the *Agricultural Journal of India*, and published during the year.

Throughout the year, I have contributed regularly to the *Planters' Chronicle*, furnishing 69 articles and notes, which occupied 101 pages of that journal out of a total of 847 pages.

3. TOURS.—During the year, I have made a number of tours, being absent from head-quarters for 160 days, and travelling a distance of 8,848 miles by rail and 3,046 miles by road. The following planting districts were visited in the order named:—Coorg, Mundakayam, Peermade, Cochin, Nilgiris, Malabar, Wynaad, Malabar, Cochin, Mundakayam, Peermade, South Travancore, Coorg, High Range, Coorg, Cochin, Mundakayam. The Experiment Stations were visited and inspected three times, the Coorg Station twice, in company with the Director of Agriculture and the Government Agricultural Chemist, who went a long tour with me in the Wynaad, Malabar, Cochin, Mundakayam, Peermade, and South Travancore. The Government Fruit Gardens in the Nilgiris, and the Potato Farm, were also inspected in company with the Collector of the Nilgiris, and at his request. In addition to this, I attended a meeting of the Rubber Growers' Association (South Indian Branch) at Cochin, the Annual Meeting of the United Planters' Association of Southern India at Bangalore, and the Board of Agriculture Meeting at Pusa, as well as several meetings of Planters' Associations, at some of which I delivered lectures. I also went to the Central Provinces on special deputation, to investigate the possibilities of coffee cultivation in the neighbourhood of Tamia.

4. COFFEE.—It is difficult to collect accurate statistics of coffee, but there are about 223,000 acres under cultivation in South India, about 74 per cent. of which are in Mysore and Coorg, where a great deal of it is in the hands of Indians. Crops have been good and prices phenomenally high, "A" coffee standing at 185 shillings per cwt. in London on 1st April, 1920. Future prospects are fair. The work being done in Coorg, under the advice of the Scientific Department, with Coffee Hybrids has proceeded in a satisfactory manner. Reports received from London, on a small sample sent home last year, were very favourable and encouraging. The hybrid planted out on the estate mentioned in last year's report was put out 6 x 3, and this year it gave its virgin crop at two years old, which averaged about 8 cwt. per acre, and there is promise of a very large crop this year. Another hybrid, or possibly pure strain obtained by selection in South Mysore, has also received much attention. Three-year old clearings of this, planted 6 x 6, gave 6½ cwts. per acre. Seed of both is now on the market and is in great demand,

and, in a few years' time should produce a marked result on the yields of estates. It is being used both for new openings and for supplies to replace dead bushes on old estates. No further work has been done on the small plot of coffee on the Coonoor Ghaut, which was inspected twice, once in company with the Director of Agriculture, and once in company with the Collector of the Nilgiris. As suggested last year, the work of hybridisation can only be properly carried out by a Botanist, and it is possible that some day such an officer may be added to the Section, in which case there will be material to his hand to work on, instead of having to wait a number of years to grow the necessary plants. Robusta coffee is being tried on many estates, and, as a catch crop for Hevea Rubber, has met with marked success in one small experiment. A new disease has been reported on this variety of coffee in the shape of a small borer, identified by the Government Entomologist as *Xyleborous compactus*. This was found boring in the stems and shoots, but it is not yet certain that it is a primary pest, it may possibly be working merely in wood killed by other causes. Now that fertilisers of all kinds can be more easily obtained, a good deal of attention has been paid to manuring coffee estates, some of which got very little during the war. A large number of enquiries have been made about this subject, and a growing number of estates are being systematically manured on a definite system under my advice, based on soil analyses. Some very encouraging results are being obtained from these systems.

5. Tea.—The statistics are in a more satisfactory condition, and the following acreages and crops may be reported:—

	Acres.	Crop in lbs.	Yield per acre in lbs.
High Range ...	21,329,82	12,149 443	636,63
Peermade ...	13,191,33	7,329,000	555 59
S. Travancore ...	4,794,32	2,327.000	503,
Anamallais ...	?	1 616,030	...
Mundakayam ...	1,133,	472,011	519,
Coorg ...	518,	...	...

Crops have been good during the year, and the export of tea from South India was:—

1916-17	...	24·91 million lbs.
1917-18	...	23·07 million lbs.

No actually new disease has made its appearance. In the Nilgiris *Corticium salmonicolor* (Pink Disease), a fungus which attacks a very large number of plants, and is especially troublesome on young rubber, did a certain amount of damage. Root diseases continue to be of primary importance, and a great deal of work was done on these during the year. My thanks are due in this connection to the Government Mycologist, who has kindly examined a large number of specimens for me, and given me much valuable aid and advice. One fungus, which is associated particularly with dead Cinchona roots, has been identified as *Rosellinia arcuata*, its fructification having been found. Several other fungi are at work, some of them probably new and as yet undescribed and unstudied. In view of the damage caused by these fungi, which appear to be on the increase, the system of burying prunings will have to be discontinued in some districts. This will result in a large loss of organic matter and nitrogen, which must be replaced by manures or green dressings. In how far the latter can be used to replace the loss is a subject now being studied. The use of green dressings in general on Tea Estates and of cover crops of all kinds to prevent soil erosion continues to receive attention, and valuable results have been obtained during the year, and the practice of clean weeding is gradually but surely disappearing. A great deal of attention has also been

paid to manuring, and it has been the source of many enquiries, and a lot of advice was given during the year.

6. RUBBER.—The following Rubber statistics are available :—

	Acres.	Crop in lbs.	Yields per acre in lbs.
Mundakayam ...	11,536	2,335,624	180·99
S. Travancore ...	8,346·71	1,853,352	222·
Anamallais ..	..	72,118	...
Coorg ...	3,367	...	...
High Range ...	824	...	...

In addition to this there are some 6,000 acres or more in Cochin, details of which are not to hand. The United Planters' Association of Southern India propose to shortly publish statistics of all planting districts, and details are being collected.* It is noticeable that the cultivation of both tea and rubber is being taken up by Indians in Travancore. There are about 20 rubber companies representing some 14,000 acres now under Indian management, and a Tea Company has recently been started to open a block of 1,500 acres. A great deal of work has been done on rubber during the year, and a number of valuable experiments are being conducted on estates which are regarded as sub-stations. The most impottant of these are the following :—(*a*) The study of the manurial system, Lime—green dressings—Phosphates at Wandur and Pudukad. (*b*) The study of green dressings for both old and young rubber at Pudukad. (*c*) A series of manurial experiments at Kerala. (*d*) A spacing experiment at Kerala. (*e*) Experiments with the control of *Phytophthora Meadii* by means of removing the fruit and dead branches at Pullengode. These experiments have formed the subject of several progress reports, published in the *Planters' Chronicle*. Rubber in South India unfortunately suffers from a large number of diseases, some of which are very serious. *Phytophthora Meadii*, which causes abnormal leaf-fall during and after the monsoon, undoubtedly affects the crop and plays a large part in keeping yields disappointingly low. This disease has been exhaustively studied by the Government Mycologist, and his recommendation to remove the fruit before the monsoon, though difficult to carry out in actual estate practice, is finding favour among planters, and in the coming year a number of estates are making arrangements to carry out this work over large areas. A somewhat mysterious isease known as Brown Bast has elicited a lot of attention all over the East during the year. It is generally considered to be physiological. A great deal has been written about it, and planters have been kept regularly informed, through the pages of the *Planters' Chronicle*, of the latest development and theories. A number of experiments have been tried with the methods of cure recommended, but the success of these is doubtful, and the matter needs study on the spot by a Mycologist. The incidence of the disease is as high as 40 per cent of the trees on some estates, so that it is of great importance. Manuring continues to claim attention, and much advice has been given on this subject during the year. While it is difficult to obtain any direct results from manurial experiments, which are vitiated by a number of other factors, it is generally agreed that manured rubber is healthier and better than unmanured. The use of green dressings, both in new clearings and under old rubber, and the application of lime and phosphate, in which rubber soils are markedly deficient, are being studied.

* The figures for 1918 appear in this issue. (ED—P. C.)

(To be continued.)

SOUTH TRAVANCORE PLANTERS' ASSOCIATION.

Minutes of the Annual General Meeting, held at Quilon Club, on Saturday, 1st May, 1920, at 10 a. m.

PRESENT.—Messrs. Farr, Lister, Anderson, Jodrell, Knight, Thom, Cook (Chairman), and Jackson (Hony. Secretary).

BY PROXY.—Mr. E. Lord.

VISITORS.—Messrs. Hall, Coglan, Lindsay, Shore, Alexander and Macpherson.

The Chairman, referring to the regretted deaths of Mr. Prince at Palamcottah and Mr. Perry at Kodaikanal, moved that the Honorary Secretary write a letter to their nearest relatives, expressing the sympathy of this Association at the sad events. Carried, all standing.

Minutes of the last meeting were taken as read, and confirmed.

ACCOUNTS.—These were circulated and passed. Mr. Polson was thanked for having audited them.

CORRESPONDENCE.—This was gone through, and from it the following resolution arose :—

"That this Association send a donation of Rs. 250 to the U. P. A. S. I. Planters' Benevolent Fund."

This was proposed by Mr. Farr, and seconded by Mr. Thom, and carried unanimously.

It was also resolved :—

"That the Honorary Secretary approach the Travancore Combined Planters' Association, and find out what is being done in regard to procuring land for returned soldiers in this State."

SRI MOOLAM POPULAR ASSEMBLY.—Mr. Ross' report was read, and a vote of thanks passed for his representation.

The Chairman and Honorary Secretary then resigned.

Mr. Knight took the Chair, and the following officers were then proposed for the current year :—

Chairman	...	Mr. J. B. Cook.
Hony. Secretary.	...	Mr. J. R. N. Pryde.
Committee.	...	Mr. E. T. C. Farr.
		Mr. R. Jodrell.
		Mr. R. Crowther.

After thanking the Members, Mr. Cook again took the Chair.

RESOLVED.—"That subscription to the Association for the current year be one anna per acre."

U. P. A. S. I.—"Messrs. Cook and Lord were elected to the General Committee, and asked to attend the meeting in August."

With a vote of thanks to the Chair, the meeting closed.

(Signed) JOHN B. COOK.
Chairman.

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, 11th May, 1920.

PROCEEDINGS.—The proceedings of the meeting, held on 12th April, were confirmed after previous approval in circulation. The draft proceedings of the meeting, held on 27th April, had not been seen by all members, and were to be continued in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION, LONDON.—Letters dated 8th and 15th April came up for consideration. A letter dated 22nd April had also just been received, but had not yet been circulated to members. The chief topics of interest dealt with in these letters were as follows:—

(*a*) *Labour Rules.*—In connection with the revision of the labour rules agreement for the Brahmaputra and Surma Valleys, copies of the agreement as revised had been sent to the London Association, and, in their letter, dated 15th April, the Committee of that Association stated that the London signatories were prepared to accept the agreement as revised, and that members would inform their Calcutta houses accordingly. The Committee noted this information with much satisfaction.

(*b*) *Diversion of steamers to outports.*—In the proceedings of 12th April last, it was mentioned that a test case had been taken in London against one of the steamship lines, to settle the position of tea shippers whose tea had been offered for delivery at an outport instead of in London, consequent on the diversion of the vessel to the outport by the Ministry of Shipping. It was also stated that, as a result of the case, the steamship line had been found liable for costs and expenses in conveying the tea from the outport to London. While this was the legal position, the London Committee advised that discussions were proceeding with the steamer lines for an amicable settlement. A meeting had been held on 13th April between representatives of the Calcutta Liners Conference and the London Committee for this purpose. The tea representatives had been authorised to put forward an offer, on behalf of the General Committee, to the effect that, if the lines would undertake to reimburse shippers to the extent of $\frac{3}{4}d.$ per lb. on all teas diverted to outports, the Committee would recommend shippers to accept this as a settlement, and to take delivery at the outports. This offer had been duly made to the ship-owners, and, from the letter dated 22nd April, which had just been received, it transpired that the Anchor-Brocklebank and the City Lines had agreed to the proposal; the Committee had every hope that the Clan Line would also accede to the suggested scale of reimbursement. The rate of $\frac{3}{4}d.$ per lb. is equivalent to an allowance of 62*s.* 6*d.* per freight ton. The London Committee, while pointing out to members that the arrangement was in no way binding, strongly advised them to ratify the agreement.

The Commitfee noted with considerable gratification that a satisfactory arrangement had been obtained at a rate which they thought seemed reasonable.

(c) *Regulation of sales.*—This subject was last referred to in the proceedings of the meeting held on the 12th April. In confirming their telegram referred to in the minutes of that meeting—which stated that sufficient unanimity in favour of carrying out the Calcutta Committee's proposals in this connection was not likely to be forthcoming amongst London members—the London Association pointed out that, in any case, they had no hope that Ceylon would consent to the proposals, as past efforts to induce the Ceylon Association to adopt a limited form of regulation had always proved unsuccessful. Furthermore, they had no doubt that, if necessary, it would be possible to review the whole question later on.

The Committee now discussed the question generally, with particular reference to the suggestion made by the London Association in the course of the negotiations, to the effect that shipment of the new season's crop from Calcutta should be held back. It seemed to them necessary that some definite date should be fixed on, with a view to recommending members not to ship their new crop before such date ; and it would also be well to indicate at what rate it was desired that the crop should go forward, as, otherwise, individual shippers would not be in a position to determine to what extent they should limit their shipments. Furthermore, the length of time for which it would be possible to hold back the new season's crop greatly depended on the position in the tea transit sheds and on the gardens, where storage accommodation was not unlimited. There were some concerns which would not, from their individual circumstances, be able to co-operate in any general movement to defer shipment of the new crop, but such cases did not, in the opinion of the Committee, need to be taken into serious account. It was decided to put these points before the London Committee, and to ask for a reply by cable.

INCOME TAX: LIABILITY OF TEA COMPANIES TO THE PAYMENT OF INCOME TAX.—A letter dated 6th May had been received from Messrs. James Finlay & Co., Ld., referring to the special case between Government and the Killing Valley Tea Co., Ld., to test the question of the liability of tea companies to the payment of income tax. The case was to have been heard on the 10th May, but Messrs. James Finlay & Co. now wrote to say that it had been postponed until the 17th, and that Messrs Orr, Dignam & Co. had briefed Sir B. C. Mitter and Mr. Amir Ali to plead the case for the Killing Valley Tea Co., Ld., as Mr. J. W. Langford James had proceeded home. A white book containing the statement of case on behalf of the applicant (the Killing Valley Tea Co., Ld.,) the Government statement and the resolution by the Board of Revenue, had also been forwarded for the information of the Committee. It was decided to have copies of the white book printed and distributed to members of the Association, and to the Branches and other Associations.

HOMEWARD PASSAGES.— A letter dated 5th May had been received from the Secretary, Surma Valley Branch, asking for information as to the position in this connection. The Secretary was directed to forward to the Branch copies of the correspondence which had passed on the subject between the Chamber of Commerce and the General Committee,

FOOD CONTROLLER: EXTRA COST OF PRODUCTION IN 1918.—It was decided at the meeting held on the 27th April that information on this point should be cabled for to London. It will be remembered that the Food Controller, after agreeing to the ½d. per pound increase for the 1918 contract, announced his intention of paying locally controlled concerns in London. This appeared to the Committee to be manifestly unfair, and they demanded payment in rupees at the rate of 1s. 4d. per rupee. The London Committee had now replied, in their telegram dated 4th May, to the above enquiry, saying that the matter had been referred back, for the present, to the Indian Tea Commissioner. The position was, meantime, to be recorded.

STATISTICS OF 1919 CROP.—At the request of the Indian Tea Cess Commissioner for India, the Committee had directed that all members should be circularised, with a view to collecting certain particulars regarding the position of the 1919 crop, namely, as to the quantities still on the gardens in transit for shipment and lying at the port of shipment. These statistics had now been received and the particulars forwarded to the Indian Tea Cess Commissioner. The figures were now to be recorded.

RESTRICTION OF EXPORTS FROM THE UNITED KINGDOM.—In the proceedings of the 20th January, a reference to this subject was made. It was then decided, after discussion of a letter which had been addressed by the London Committee to the Ministry of Food in this connection, to bring the subject to the notice of the Government of India, Department of Commerce. Accordingly, a letter dated 22nd January was sent to the Department, asking them to press the Home Government to remove all restrictions. In reply to this letter a communication, dated 26th April, had now been received from the Department of Commerce, the text of which is subjoined:—

With reference to your letter No. 75-0, dated the 22nd January last, I am directed to inform you that the Government of India referred your representation to His Majesty's Secretary of State for India by cable on the 31st idem, and asked that every possible effort should be made to secure the removal of the restriction of which you complain. The Government of India now learn that, while the Ministry of Food is unwilling to remove the prohibition altogether, it has allowed purchases at public sales for export since January last, and is asking the Board of Trade to allow the unrestricted export of tea under license, so long as supplies in the United Kingdom are not endangered.

A copy of this letter had been sent for information to the Indian Tea Association, London, and the file was now to be recorded.

TEA ADVERTISING CAMPAIGN IN THE UNITED STATES.—Correspondence in this connection had been forwarded by Mr. Carl Reid, which he had received from the President of the Tea Association of the United States of America, New York. The Committee decided to pass on the correspondence to the Indian Tea Cess Committee.

RUBBER TRADE ASSOCIATION OF LONDON.

Monthly Statistics.

APRIL, 1920.

Movements of all kinds of Rubber to and from the United Kingdom as per BOARD OF TRADE RETURNS.

IMPORTS.

From	March.			3 Months ended March.		
	1920	1919	1913	1920	1919	1913
Straits Settlements and F. M. S. ...	4,622	5,314	2,075	14,127	10,703	5,715
Ceylon and British India ...	2,361	2,551	608	7,613	6,556	1,858
Dutch East Indies &c. ...	429	874	111	2,187	1,393	270
Brazil and Peru ...	1,564	1,014	2,121	1,992	2,824	6,044
Other Countries ...	233	241	1,311	625	811	4,631
Total Tons ...	9,209	9,994	6,226	26,544	22,287	18,518

EXPORTS

To	March.			3 Months ended March.		
	1920.	1919.	1913.	1920.	1919.	1913.
United States of America ...	5,484	3,833	1,131	14,507	5,649	3,758
Canada ...	298	24	39	1,232	45	89
France ...	1,968	1,748	379	3,826	3,636	1,087
Belgium ...	250	54	165	787	82	461
Italy ...	467	536	15	853	1,675	57
Spain ...	5	73	9	22	76	24
Germany, Austria, Hungary ...	286	...	1,152	640	...	2,921
Russia ...	...	...	488	19	...	1,761
Sweden, Norway and Denmark...	63	42	83	211	296	186
Other Countries in Europe ...	8	...	99	129	5	317
Other Extra European Countries..	61	59	69	230	113	160
Total Tons ...	8,890	6,369	3,629	22,456	11,577	10,821

LANDINGS, DELIVERIES and STOCKS in London and Liverpool as returned by the Warehouses and Wharves during the month of March.

		Landed for Mar.	Delivered for Mar.	Stocks 31st March. 1920.	1919.	1918
LONDON ...	Plantation ..	7,865	7,267	20,204	14,092	15,282
	Other Grades ...	58	16	565	458	399
LIVERPOOL...	Plantation ...	309†	405†	1,384†	2,400†	2,900*
	Para & Peruvian	1,326	620	816	670	576
	Other Grades ...	...	...	377	499	589
Totals London & Liverpool...		9,558	8,308	23,346	18,119	19,746

† Official Returns from the five recognised Public Warehouses.
* Estimated.

Movements of all kinds of Rubber, excluding Gutta, Balata and Guayule, to and from the U. S. A., AS PER RETURNS OF THE UNITED STATES DEPARTMENT OF COMMERCE.

	January.			12 Months ended December.		
	1920.	1919.	1918.	1919.	1918.	1917.
IMPORTS ...	29,655	10,285	11,293	239,259	145,517	181,088
EXPORTS ...	252	85	569	2,282	2,745	4,000

RECEIPTS AT PARA.

	March.			July/March (9 Months).		
	1920	1919	1918	1919/20	1918/19	1917/18
Rubber ...	2,210	2,520	2,850	21,550	19,413	21,464
Caucho ...	740	890	1,510	4,530	4,032	6,566
Total ..	2,950	3,410	4,360	26,080	23,445	28,030

FERTILIZER ACT.

(Conclusion.)

The proposed Act contains two novel features, appearing in no other similar Acts in any country in the world. These are the Excluding Schedule, and the restriction of the manufacture and sale of fertilizers by license.

It is not contended that the fertilizers under the Excluding Schedule are not fertilisers proper, or that there is the least doubt upon this question. It is merely a matter of policy. The Act is to cover all and every fertilizer, which it is to sharply divide into two classes. One of these it will control. The other it will leave to the tender mercies of the "large number of small dealers."

Exclude Flour Phosphate, Basic Bone Supers and Superphosphate, and there is not an indigenous fertilizer the manufacture of which is not in the hands of a "large number of small dealers."

In the previous instalment, the writer showed that Fish Guano and Crude and 70% Saltpetre would have to be included in the Excluding Schedule. If these are not excluded, the Act from the commencement would become a dead letter, as it is impossible to imagine these petty dealers being able to comply with such provisions as guaranteed analyses, special invoices, etc.

Summed up, it means that practically all indigenous fertilizers will have to be excluded from the Act, and imported fertilizers included under the Act. This is bad enough, but there is an even worse aspect. The Act would legally lay down what fertilizers are to be sold under guarantee, and be up to guarantee. Others it will legally protect from any guarantee, or, in other words, it will legalise adulteration. Under the Act, you must sell Fish Guano, so much Nitrogen, so much Phosphoric guaranteed. Under the Act you may sell Fish Manure, but how and of what composition is considered unnecessary.

This is an Act supposed to prevent adulteration and fraud, and for the future protection of the ryot.

As to the manufacture and sale by license. The Act states. . . . a "license which should not ordinarily be refused to anyone and should not be cancelled except on conviction of an offence under the Act." . . .

Usually a licensed industry is a restricted industry, as the uncertainty of regulations under the license, operates as a bar to new works being started. Who would develop or invest capital in a business, which at any time could be brought to a standstill by the cancellation of the license ?

The wording of this section is very ambiguous, as it is not clear whether the factory is to be licensed, or the manufacturer. If it should be the factory, then, as there are several lakhs of capital already invested in fertilizer factories in India, these would be placed in a position of total loss, should the license be cancelled. If the manufacturer is to be licensed, apparently the loss of a license by A, will allow B, C, or D, to carry on the business, in other words, the license is worthless, and the licensing becomes a farce.

Whatever legislation is passed, conditions as they are to-day in India will remain so for a long time to come. To imagine a native who is out to get rich quick, by dabbling in fertilizers, will be kept in the straight path by fear of loss of a license, is to possess a very vivid imagination.

Under a system of license, what is to prevent Ramasawmy from putting up a small factory, the output of which is genuine fertilizers. From his numerous relations, he gets a dozen or more to take out selling licenses, and the adulteration is done by the retailers. It would take time to rope in the whole batch, and, as fast as one license was lost, up would spring another applicant.

Where, under these proposals, the protection for the ryot comes in, it is difficult to see. If planters consider their interest will be best served by having it legally laid down that practically all indigenous fertilizers shall not come under any guarantee, and shall be free to be adulterated to any extent, it is only necessary to support the proposed Act.

Destructive criticism is easy. At one of the three Manure Works in S. India, through the courtesy of the Government Agricultural Chemist, a system of check control is in operation, which works smoothly and is favourably received by the planter constituents making use of the system, which could easily be applied to other factories, at comparatively small cost. For the benefit of the ryot, as, now the fertilizer requirements for nearly all crops is known, it should be possible to stipulate, no manures containing less than so much per cent. of Nitrogen, Phosphoric Acid, and Potash should be offered for sale, a very stiff fine being imposed if other manures were offered.

Incidentally, it is usually the practice in most other countries when legislation is proposed affecting any industry, for the industry to be consulted first, on the basis that those engaged in the industry know something of the industry in which they are engaged. In this case, not one of the proposers has had any intimate connection or knowledge of the Fertilizer Industry in India.

NOTES AND NEWS.

The next Rubber Exhibition.

The next Rubber and Tropical Exhibition and Congress has been definitely arranged, and will be held at the Royal Agricultural Hall, London, from June 3rd to June 17th, 1921. Judging by reports, it should prove a worthy successor to those given under the direction of the late Mr. Staines Manders. Sir Owen Philipps is the Honorary President, and Prof. Wyndham Dunstan the Honorary Vice-President. Mr. Greville Montgomery will direct the Exhibition. In expressing the hope that India will loom large at the show, *Tropical Life* says it would "enable us to realize what an important "producing centre she already is, and even then what has already been done "is nothing to what she could do if her potential wealth in land, labour and "capital were utilized to the full. It has often been said that this country "takes no interest in India; that an important debate in the House of "Commons finds the benches empty. If this is true, may it not be to a "considerable degree the fault of India? To have friends, you must make "friends, and June 1921 will offer India a unique chance of doing so."

Statistics.

The 1919 statistics relating to the production of rubber in South India are not coming to hand as freely as the Secretary would wish. We appeal to everyone interested to send their figures in without further delay.

The Benevolent Fund.

We are glad to note from the proceedings of the South Travancore Planters' Association that this Association has resolved to make a contribution of Rs. 250 to the Planters' Benevolvent Fund. Apart from this, the receipts for April and May total Rs. 566-6-0.

The Labour Department.

We are asked to remind Estate Managers that there is likely to be delay in attending to their business if Superintendents of the Department are addressed by name. We have often drawn attention to this proclivity on the part of planters, who should invariably address all letters and make cheques payable to "the Superintendent, U. P. A. S. I. Labour Department," followed by the name of the division concerned.

Labour in Malaya.

Mr. Davies, Recruiting Financial Agent in India for the Malay Peninsula Agricultural Association, speaking at the Annual Meeting of the Planters' Association of Malaya, said:—"There is considerable activity in "India just now to encourage emigration to Ceylon, to obtain labour for "estates in India, and by the land-owners to retain the labourers in their "own districts. In addition to the increased rates of pay in India, the "adverse rates of exchange against Malaya is also widely advertised, and it "is quite conceivable that this propaganda is harmful to emigration to this "country. And, what is now serious is the fact, according to a very good "authority, that coolies over here are writing to their friends and relations "in India informing them of the prevailing conditions, and advising them "against emigrating to Malaya, and doubtless coolies returning to India are "doing the same thing by word of mouth."

Replanting of Rubber.

Several areas of no longer profitable rubber have been felled and cleared, and replanted with fresh rubber seedlings or stumps. So far, these experiments give promise of being successful, and they will be watched with increasing interest as time goes on. (Planters' Association of Malaya, Report of the Standing Committee).

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents).

Government Road,
Nairobi, May 6th, 1920.

The Composition of the Coffee Berry.

Sir,—Mr. Anstead's letter in your issue of April 10th has caught my eye, and I hasten to tender my apologies to him as well as to yourself that my name should have appeared as the author of the article, instead of that of Mr. Anstead.

The error was due to the fact that I recently sent to our local journal, for reproduction, some articles which I thought might be of interest to the planting community of this country, among them being this article, but from which Mr. Anstead's name was, in reproduction, inadvertently omitted.

I trust you will give this letter publicity in your Chronicle.

Yours faithfully,
(Signed) C. C. MONCKTON.

More Research.

Dear Sir,—Some weeks ago, when excavating the foundations of a building which I am intending to use as a factory for extracting Brown Bast Essence from Coal Dust (which will no doubt revolutionise the planting industry), I discovered an old tattered volume amongst the surrounding debris. I picked it up, and more closely examined its well thumbed pages. On the back, though nearly obliterated by the ravages of time, I found the title " Notes on the Planting and Cultivation of MYRRH & CASSIA," by Marcus Garnibus, of the town or city of PLANTIUM.

That very night, when at home, I carefully assimilated the vast stores of ancient bygone knowledge contained in its pages. And, as far as my own reading goes, it would seem to contain very much the same as our Planters' note-books of to-day with, however, the exception which I will now quote. It seems to be a table of measures quite overlooked by our Mr. Rutherford and others who aspire to literary fame and possibly they may see fit to include it in their future editions; we are sure the sales will be increased thereby. The copy-right is quite free.

It runs somewhat as follows:—

Much Boose	=	1 Binge
4 Binges	=	1 Drunk
2 Drunks	=	1 Blind, roll or lurch.

In calculating the above, figures of merit are:—

Black and White	...	6·00
All other brands	...	5·83
Mothers Ruin	...	5·15 (to tiffin time)
O T. Kola, Glaxo.	...	Variable according to the society one frequents.
Lemonade	...	1·11
Soda	...	0·01
Do (flat)	...	0·00
H2O	...	1·00
Do (Eldorado well)	—infinity	

" A Peermade Banjy (unplucked)."

[It is quite evident the monsoon has broken in Peermade. Ed—P.C.]

The Planters' Chronicle.

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THE PRODUCE MARKETS.

It is nearly two months since we had the opportunity of surveying the position at home, in respect of the three main industries in which we are interested, a period during the first month of which, there was a general dullness amounting, in the case of tea and rubber to a serious sagging in prices, and, in the case of coffee, to a "hold up" of the market by Home buyers in view of the unfavourable export position. With the re-opening of auctions on April 8th after the Easter holidays, there was some competition in Home trade coffee, but a further decline in the Continental Exchange absolutely stopped all export business. The result was that, although buyers for home consumption were prepared to pay high prices for what they wanted, the increasing stocks precluded the possibility of any appreciable rise in prices generally. At the beginning of May the position was at its worst, but, by the 15th of that month, the exchange situation was distinctly more favourable, and orders from the Continent were anticipated should the improvement in the franc continue. From the grocers' point of view, it is said that the recent higher prices paid for parcels of Costa Rica and East Indians were justified by the improved quality, which would indicate that

the slump was due more to the absence of better class coffees than to a real market decline. The last London Coffee Returns published in these pages showed a stock of 17,352 tons on March 13th, against 17,248 tons at the same date in 1919. These figures should be carefully compared with the returns for the week ended May 8th, which were :—

	Home Consumption.		Export.		Stock.	
	1920.	1919.	1920.	1919.	1920.	1919
In tons ...	313	298	320	107	81,031	20,920
For 19 weeks ended May 8th...	7,311	4,893	5,826	2,841	...	...

There is no doubt about the increased demand for coffee all the world over, if only it were not hampered by the financial question. A correspondent sends us an advertisement, issued in America by the Joint Coffee Trade Publicity Committee of the United States. It is very American, and rather amusing, and points out "the passing of our old 'bugaboos,' " by comparing the opinion that coffee is injurious with the old-time illusion that coal was a " public nuisance," and was for that reason burned openly in the market place. Publicity of this nature might with advantage be practised at home, without detriment to the sister product, tea. In America it is claimed that, in these days of high living costs, coffee is the least expensive item on the menu, costing less than 2 cents per cup, including cream and sugar. Accompany this claim to cheapness with the assertion " DRINK COFFEE AND REMAIN WELL", and you remove at once the "bugaboo," which has so long existed, that coffee is an expensive drug, rather than an inexpensive luxury.

It is more difficult to appraise the tea position, which, at the time of writing, presents indeed, a serious aspect for all tea planters. The London Commercial Correspondent of the *Madras Times* is worth quoting on the subject. He says :—" As a matter of fact a great deal of tea has been sold recently (May 13th) well below the cost of production, the average price realised for Indian Tea during the past week, realising only 1s-2-32d. per pound while the Ceylon sales averaged 1s-4-40d."

If we consider this, even at the present more favourable exchange rate (24½d.), it means that the planter is realising rather more than 7¼ annas per pound. Three months ago, an anxious planter writing to us put 5¾ annas as barely covering expenditure, and no doubt he meant f. o. b. costs, Cochin. Add to this freight and London charges, and we are indeed selling at less than cost price. The official figures make the outlook even darker for 216 million pounds of tea were in bond, compared with 103 millions at the same date in 1913, while exports from India announced in the second half of April, would add over six millions, so that stocks were not likely to be reduced. Nothing is more certain, however, than that the position is only temporarily bad, and that we may look forward to a complete rehabilitation of the market.

We have not recently published particulars of tea railed from Colombo to various destinations in India. There has been a marked increase in

this trade in recent months. For the three weeks ended May 24th, the following are the details :—

	lbs.
Calicut	3,734
Madras	3,928
Madura	222
Tellicherry	4,330
Tinnevelly	156
Cochin	2,400
Cannanore	5,100
Virudupatti	170
Alleppey	1,785
Kumbakonam	250
Badagara	840
Trichinopoly	726
Total...	23,641

We are more familiar with the rubber market because of the daily quotations in the Madras dailies, and the only point we need mention is the continued affinity between the price of this product and the exchange rate, at the time of writing 24d. and 24½d., respectively. Advices from home continue on very much the same lines as hitherto, and there is little or anything to report. Stocks are inclined to increase, and, on the 15th May, were reported at 23,000 tons. "Macson," the *Indian Rubber Journal's* correspondent, usually has something interesting to say, and in the issue of 15th May he writes:—

"We have again experienced another set-back this week in rubber values, and this time Singapore happens to be where the weakness breaks out. At the auctions there, prices fell to 1s. 8¾d. per lb. Rubber is difficult to finance, and, with America rather a seller than a buyer, things must be very precarious.

New York is low, 37 cents on the spot, but the anomaly is that you can buy c.i.f New York nearby delivery cheaper than you can buy nearby rubber in London. When the main consuming market is like this, it does not hold out much hope for improvement. But it certainly emphasises London as the main balancing market. Singapore may collapse, New York may get panicky, but London carries a huge burden and does it without knocking values too low.

The April imports into America are big—21,036 tons plantation, 1,893 Paras, and 746 sundry. These are still on the full side, and show, for the four months this year, a too heavy import."

Those interested in what has come to be known in U. P. A. S. I. circles as "Minor Produce" may care to have some information about the pepper and cardamom markets. A month ago, pepper, after a period of depression common to all our interests, showed more enquiry. The price of Black fluctuated considerably, and was quoted on the spot at 7⅜d. for Singapores. White pepper had not advanced. The fall has been almost 50%, stocks are about the same as at the corresponding period last year, and prices about 2d. per lb. less. Tellicherry Black, on the spot, was worth (13th May) 9½d. nominal. The market for bold well-cured Mangalore type cardamoms was reported by Messrs. Leslie & Anderson to continue steady, but browns and pickings were difficult of sale.

ANNUAL REPORT OF THE DEPUTY DIRECTOR OF AGRICULTURE, PLANTING DISTRICTS FOR 1919—1920.

(Continued.)

7. THE MYCOLOGICAL STATION.—The buildings on the Mycological Station at Mundakayam have been completed during the year, and are now ready for occupation. These consist of a bungalow for the European Mycologist, quarters for two Indian Assistants, a laboratory, and quarters and lines for a clerk, peons, etc. The Station consists of eleven acres on a hill in a central part of Mundakayam, and a motor road has been constructed to it.

Meanwhile, the Rubber Mycologist has not yet been recruited. There is very urgent need for both this Mycologist and the Planting Mycologist, both of which officers have been sanctioned, and a good deal of disappointment is felt among the planters that, although all is ready for these officers to begin work, they themselves have not been recruited.

8. EXPERIMENT STATIONS.—During the year, three of the four sanctioned Experiment Stations have been established, and work has been begun upon them. Reports upon these form an appendix to this report.

The fourth Experiment Station for the study of rubber at Tenmalai in South Travancore is not in such an advanced stage. A site has been selected close to the Tenmalai Railway Station, by the side of the main roads from Quilon to Shencottah and Trivandrum. The buildings are now in course of construction, and it is hoped to have them ready for occupation before the monsoon, so that actual work on the Station can begin about September, 1920.

The Farm Manager, K. W. Chakrapani Marar, was appointed on 1st April, 1919, and sent to Florence Estate for training. Throughout the year he has been learning his work on this estate, with occasional visits to the Station and other estates, and, by the time the quarters are ready for his occupation, he should be capable of carrying out all the necessary work on the Station.

9. GENERAL.—The year under review is the first under the new scheme, by which the Scientific Department of the United Planters' Association of Southern India is entirely under the administration of the Director of Agriculture. This has necessitated a good many changes in office and routine, but the new system is now working quite smoothly, and steady progress has been maintained.

One result of the change of head-quarters has been that I seldom meet planters except when on tour, as comparatively few pass through Coimbatore, and those who do seldom find their way out to the College. At Bangalore, it was seldom a week passed, when I was at head-quarters, but some planter or other came to my office to discuss estate matters with me. This is, I venture to think, a decided loss, and, it is difficult to keep in touch with districts not actually visited. With the advent of the Experiment Stations the scope of my touring is necessarily curtailed. The Stations necessitate regular visits, and these occupy a good deal of time, owing to their wide distribution. The planting districts, as will be seen from a glance at the map, are distri-

buted over a large stretch of country, from Coorg, in the north, to South Travancore. Though I have been on tour during this year for more days than usual, I have actually been able to visit a smaller number of different districts. To effectually deal with a district of this size where, each year, more and more attention is demanded from the department by individual planters, needs an increase of staff, and this will become more and more pressing as Indians take up planting products.

(Signed) RUDOLPH D. ANSTEAD,
Deputy Director of Agriculture, Planting Districts.

APPENDIX I.

The COffee Experiment Station.

This Station consists of about 20 acres of old coffee, situated by the side of the main road from Mysore to Sidapur (Coorg), and two miles from the latter place. It contains average coffee in various stages of vigour, and will give scope for a number of experiments. Charge of the Station was taken over on 1st April, 1919, when it was visited by the Director of Agriculture and myself. The Farm Manager, C. S. Madiah, joined duty on 1st April, but his quarters were not completed till July, and no regular work was undertaken till then. Quarters and cooly lines are now complete, and a resident labour force established. On 11th January, 1920, Assistant Farm Manager, V. M. Ramunni Kidavu was transferred to the Station, to undergo training in coffee work.

In July, work was begun, and the Station which, during the monsoon had got very untidy, was cleaned up, and three weedings were done during the year. The coffee was centred and suckered, the shade regulated, and bored trees removed. 1,000 plants were removed, being attacked by Coffee Borer, and this has left vacancies which will have to be filled up. Roads, paths and drains have been cleaned and repaired, and the ground round the Farm Manager's quarters and cooly lines laid out, an entrance from the main road having been constructed.

Nurseries have been established, and plants from seed selected from specially good bushes on the Station are being raised, to fill up borer and other vacancies. Nurseries of hybrid seed, obtained from Messrs. Jackson and Kent, have also been established, and the plants raised from these will be put out on special experiment blocks. Mr. Kent very kindly presented the Station with seed of his selected Kent's Arabica for trial.

Harvesting of crop was begun on 17th November, 1919, and completed in February, 1920, three pickings being made. 299½ Imperial bushels of ripe and stripped coffee were harvested.

No attempts at any definite experiments were made this year, as the time was fully occupied with cleaning up the Station, completing the building, organising a labour force, etc., and, moreover, the Station had not then been surveyed. The crop was, therefore, picked as a whole. The only exception to this was one plot of 110 trees, from which the crop was picked and weighed from individual trees, with the object of throwing light upon the variability of yield of individual trees and its bearing on renewal work.

This experiment will be continued for a series of years, and advantage was taken of this year's crop to begin it. The results obtained formed the subject of a preliminary note published in the *Planters' Chronicle*, a copy of which is attached hereto.

In March, 1920, the Station was surveyed and divided into convenient plots. A cropping scheme was drawn up in accordance with a programme of work submitted to the United Planters' Association of Southern India at the annual meeting in 1919, and agreed to. This programme of work will be undertaken from 1st April, 1920, when the real organised work on the Station will begin.

About 97 pepper vines exist on the Station on shade-tree standards. It is not proposed to undertake any particular experiments with this crop, the Station being designed for the study of coffee cultivation. The crop has been harvested, and consisted of 227 lbs. of cured pepper. The vines are chiefly of the " Kalluvalli " type.

The rainfall on the Station amounted to about 60 inches during the year. The rainfall record on the neighbouring estate, Fairlands, since work was started, was as follows :—

June	13·00	October	2·25
July	13·13	November	5·40
August	12·50	December	0·16
September	7·69		

The south-west monsoon began early in June, and June, July and August were cloudy and wet, while September was also a wet month, after a break at the beginning. Enough rain was experienced at the end of the year to necessitate another weeding.

A rain gauge has now been installed on the Station, and accurate records will in future be kept.

Work was begun on a well, at a site chosen near the cooly lines. This was sunk to a depth of 30 feet. Water was not struck at this depth, as had been expected, and steps are now being taken to sink it for another 10 feet.

The district in which the Station is situated is malarious, and an epidemic of influenza broke out in the neighbourhood. The Station labour was inoculated against this, and the health of the labour force during the year has been on the whole good. One death was unfortunately recorded.

I visited the Station three times during the year, once in May, in company with the Director of Agriculture, and again in November and March. The Station is in excellent order, and a good year's work is confidently looked forward to. Light blossom showers fell at the end of March, and prospects of crop are moderate.

(Signed) RUDOLPH D. ANSTEAD,

Deputy Director of Agriculture, Planting Districts.

APPENDIX II.

The Tea Experiment Station

This Station is situated on Stagbrook Estate, Peermade, by the side of the main road next to the Roman Catholic Church, at the 4th mile. It consists of 20 acres of some tea and some grass land, on which the Farm Manager's quarters have been built.

The Farm Manager, K. P. Sankuni Menon, joined duty on 6th March, 1919, and was trained on Stagbrook Estate while the buildings on the Station were being erected. The quarters were finished at the end of June, and were ready for occupation in the middle of October. Cooly lines were completed in February, 1920. The Assistant Farm Manager, V. M. Ramunni Kidavu, was sent to the Station for training from 1st July to last January.

Work was begun on the Station early in the year under report, the boundaries were cleared and marked, drains cut and cleaned, and weeding done. The site of the quarters was laid out, fences erected, etc. Until the cooly lines were completed, work was done with borrowed labour, but now a resident labour force has been established and housed, and the Station formally taken over from 1st April.

A plan of the Station has been made, and it has been divided up into convenient plots; and a cropping scheme drawn up in accordance with a programme of work submitted at the Annual Meeting of the United Planters' Association of Southern India, and agreed to. This programme will begin at once, and be carried out during the coming year,

A well is being sunk on a site chosen near the Farm Manager's quarters on the grass land, and it is hoped to complete it before the monsoon.

The year has been a very wet one, though the monsoon was late. The total rainfall was 208·35 inches, as compared with 175·58 inches last year. The heaviest fall was 70·92 inches, in the month of June. A rain gauge has now been installed at the Station, and, in the future, detailed records will be kept.

No attempts were made during the year to conduct any definite experiments. This could not be done till the labour force was established and housed, the Station divided into plots and a cropping scheme made. Attention has been devoted to these points, and to getting the Station clean and ready for work. Leaf was plucked as a whole by borrowed estate coolies. Yield was low, partly no doubt owing to adverse climatic conditions. The yield of green leaf was 37,442 lbs, equivalent to 9,361 lbs. of made tea. The cost of plucking was 7·39 cents per lb., and the cost of manufacture 0·95 cents.

There are no particular pests or diseases to report, but *Helopeltis* attacked the China bushes in November—December. This is a usual pest in the district.

The Station is now clean, and everything is ready to begin the programme of experiments during the coming year.

I visited the Station three times during the year, once in May, again in September, on which occasion I was accompanied by the Director of Agriculture and the Government Agricultural Chemist, and finally in March.

(Signed) RUDOLPH D. ANSTEAD,

Deputy Director of Agriculture, Planting Districts.

APPENDIX III.

The Rubber Experiment Station.

The first of the Rubber Experiment Stations is situated on Palapilly Estate in the Mooply Valley, Cochin. This is 10 miles from Pudukad Railway Station on the Cochin State Line, and opposite the "Garden Club." A new bridge, now under construction, will bring the main road through the middle of the Station.

It consists of 20 acres of rubber, mostly planted in 1910, with a small block of less than one acre planted in 1913. It lies in the bend of the river on gently sloping ground and is semicircular in shape and fairly typical of the district. It is surrounded on all sides by rubber. It contains three kinds of soil, a deep alluvial deposited by the river, a red gravel of shallow soil overl-ying laterite, and a mixture of these two, forming a soil about six feet in depth.

The Farm Manager, K. M. Jacob, joined duty on 5th June, 1919, and was sent for training on the neighbouring estate. His quarters on the Station were completed early in the year. On this Station labour is supplied by the estate, so that no lines are required. A small coagulating shed has been erected, and a well sunk, to enable us to handle our own rubber.

No attempts were made during the year to begin any experimental work, and all our energies have been directed to cleaning up the Station and trees, examining the trees for disease, laying out boundaries, etc. A plan has been made, and the station divided into convenient plots; and a cropping scheme drawn up in accordance with a programme submitted to the United Planters' Association of Southern India at the Annual Meeting, and agreed to. With the new tapping season, beginning in May 1920, this scheme will be started on. Meanwhile, the trees have been noted and left untapped for a year.

A rain-gauge has been installed at the Station, and, in the meanwhile, rainfall figures taken from the neighbouring estate are appended for the last two years. The rain was well distributed during the year, but at the end of July a very heavy fall, amounting to 10·81 inches in four days, was experienced. This caused the river, already in flood with the monsoon rain, to overflow its banks, and the lower levels of the Station were under water for several days. This did a certain amount of damage, which has since been repaired by replacing washed out earth, and a good deal of terracing work has been done.

It was necessary to do a considerable amount of work to get the Station into order for purposes of experimental work. When it was taken over it had just been thinned out, and the area was full of dead wood, felled trees, and old jungle stumps and logs. This dead wood acts as a ridus for fungoid diseases, and so these were all collected and burned, and the Station got quite clear of dead wood with the exception of a few very large stumps, which will be removed at leisure.

The trees themselves were next attended to. All dead wood was removed together with snags and broken branches, ("hat pegs" in estate parlance),

This work having been finished, diseases were tackled. Forty cases of Pink Disease were attended to and 35 cases of canker, and 21 cases of root disease. In the latter case, a disease is at work which produces a number of rotten roots below ground,—sometimes involving the tap root, while the branches and tree above ground appear healthy. Such trees are liable to be blown down in the monsoon. The fungus responsible has not yet been identified.

A census of Brown Bast disease has also been made, 2·7 per cent of the trees on the Station being affected, a low figure. All trees attacked have been marked on the plan for future experiment.

The abnormal leaf-fall due to *Phytophthora Meadii* made its first appearance this year on the 17th June on the pods of two trees. Within a week it had spread to the leaves. With the continuous rain of June, July and August the disease rapidly spread, and, by the end of August, most of the trees were affected, and the attack continued till the beginning of November. The following analysis of the attack is of interest, on the different portions of the Station. The upper slopes are the gravelly shallow soil, about 3 feet deep noted before, the flat is the intermediate soil, while the lowest portion is the deep alluvial :—

Nature of the attack.	Highest land and slopes.	Flat.	Lowest portion.	1913 rubber on flat.
	%	%	%	%
Almost complete denudation and all pods attacked ...	8·5	5 9	6·3	6·6
More than 50% leaves and pods attacked ...	36·4	39·3	50·5	25·35
Slight attack ...	52·75	53·45	41·40	55·60
Practically free from attack ...	2·35	1·35	1·80	12·45

It will be noted that the lower portions of the Station on the alluvial where the drainage is not so good were the worst attacked, while the younger trees suffered less than the older ones.

For the sake of comparison in future years, it will be of interest to put on record the following crop figures from Palapilly Estate on which the Station is situated. The average all over crop was 325 lbs. of dry rubber per acre. The yield of the 1910 rubber, the same age as that on the Station was 275 lbs. per acre. Tapping cost per lb. of dry rubber was 11·35 cents, and the all in cost, including establishment, upkeep and manufacture was 50 cents per lb. of dry rubber.

I visited the Station three times during the year, once in May, again in September when I was accompanied by the Director of Agriculture and the Government Agricultural Chemist, and once again in March, 1920.

The Station is clean and in excellent order, and all disturbing factors of disease, dead wood in the trees, etc. have been removed as far as possible so that experimental work may be begun. An attempt will be made during the coming year to standardise a block of trees for manurial experiments.

(Signed) RUDOLPH D. ANSTEAD,

Deputy Director of Agriculture, Planting Districts.

RAINFALL ON PALAPILLY ESTATE.

	1918-1919.	1919-1920.
April	0·8	1·72
May	39·84	8·63
June	17·83	26·86
July	7·19	21·50
August	18·90	23·44
September	2·33	9·15
October	7·28	11·50
November	10·32	9·00
December	1·70	0·28
January	1·95	8·85
February	Nil.	0·02
March	1·81	0·20
Total....	109·23	113·15

SOILS AND MANURES.

Organic Manures.

It is an accepted truism that the fertility of soils depends to a large extent on the organic matter which they contain; soils deficient in this material are seldom very productive. At the same time, however, it must not be forgotten that many other factors control productiveness, notably moisture. Given adequate rain, the successful planter is he who so manages his land as to supply it with an abundance of organic matter. This must be a source of constant care and activity, for organic matter tends continually to decay, and so to disappear, and must be renewed. This decay is more rapid in the tropics than in temperate climates, for in the latter it is arrested by the low temperatures which are experienced, and entirely ceases when the ground becomes frozen. In the tropics the change goes on day and night, being arrested, perhaps, only during times of intense dryness and extreme heat, or under conditions of water-logging or compactness of soil such as should never prevail on agricultural land. This being so, the supply of organic matter to the soil is of greater moment in tropical agriculture than it is in temperate regions, though even in the latter it is regarded as of essential importance.

Much of the poor and so-called worn out land to be found in tropical countries is in an impoverished condition, owing to the depletion of its organic matter, a condition which, in very many cases might have been obviated by forethought and sound agriculture.

How to obtain the required organic matter is the constant care of every good planter. The sources of supply are the pen manure of farmyard manure which results from the feeding of farm animals. Added to this are crop residues, which are not used as fodder for animals, and crops which are grown with the distinct purpose of burying them in the soil—green dressings as they are termed, and, finally, there are the supplies or vegetable matter which can be collected from outlying areas, in the form of bush, grass, and wild growths, which are adundant in some places, though scanty in others.

Of all these the pen manure is most highly regarded by the planter; several reasons, doubtless, account for this. In the first place the material is enriched by the excreta of the animals. At one time this was regarded as the principal cause of its value, but it would seem that there are other reasons. Later there was a change of ideas, and it was thought that the uneaten fodder should constitute an equally valuable manure as that containing the excreta of farm animals, mixed with the bedding and uneaten fodder. This was virtually the idea of green dressings. While green dressings were found to be quite beneficial, they did not altogether satisfy the planter, who felt that he got better results from pen manure than from green dressings, or from bush and such like matter turned directly into the soil.

Unfortunately, in general agriculture there has been little in the nature of precise investigation—little of that weighing and measuring which are fundamental to the scientific investigation of problems; so that the development of knowledge on the subject depend on the accumulation of experience and tradition, often of a vague and uncertain character, but carrying weight as it accumulates and tends in a definite direction.

There seemed to be something connected with the farm animals which improved the quality of the material used as manure, and that something did not appear to be merely plant food as determined by chemical analysis, for the animals do not add to, but rather take from this. It is in the condition of the material that the increased value seems to lie.

The investigation of the last few years appear to supply the explanation. It is now suggested that, in pen manure, the organic matter is in a condition in which it mingles better with the soil, giving it those qualities which make for fertility. The vegetable matter in pen or farmyard manure is in a changing or rotting condition, which every planter recognizes as desirable, and of which he speaks with approval, well rotted manure being what he desires for application to his fields. Given abundance of this, and an adequate supply of rain, he feels that, in the absence of pests and diseases, he is assured of a good crop.

The rotting then is the thing desired. Now rotting is a definite process set up by definite organisms: it is not merely a change induced by air or water: there must be something to do the rotting. This aspect of the question has been receiving a good deal of scientific attention of late. It is now recognised that the manure heap contains an abundance of minute organisms which have the power of rotting vegetable matter, and of converting it into that state which experience has long recognized as desirable from an agricultural point of view. Vegetable fibres are recognized as amongst the most enduring of substances: linen and cotton fabrics, thread-rope, and the like will last for years, for centuries even, under some conditions; in others they will decay rapidly: in no circumstances, perhaps, will they decay more rapidly than if they are buried in a manure heap. In the manure heap there exist certain organisms which have the power of attacking, or feeding upon, vegetable fibres in a remarkable manner; these fibres appear to be their special food, for they do not thrive on other materials. These are the planters' allies, for they convert hard, unassimilable fibre, even wood, into that soft, humus substance which mingles so well with the soil, and gives it those properties whereby it is rendered fertile.

These beneficial organisms exist in the digestive tract of farm animals, and no doubt play an important part in the digestion of the vegetable fodder on which these animals live. They are also contained in the excreta, and so find their way into the manure heap, where they continue their activities. They exist in some variety, having different growth requirements. For their

growth and development the most beneficial of them require air as well as moisture, a point which has recently been recognized and applied in practice.

With these facts in view, it is understandable why pen manure is more useful and gives better results than green dressings or bush; it contains the means whereby it is, so to speak, digested and made fit for intimate incorporation with the soil. These facts appear to explain the experience of some planters, that small dressings of animal manure give results which seems to be in excess of what might be expected from the amount of fertilizing material used. Part of the value of the dressing lies in the addition of a good supply of the organisms capable of digesting vegetable fibre, and of converting it into the desired humus substances.

In these circumstances, it would seem worth while to give small applications of pen manure to land which receives green dressing, so as to ensure the adequate supply of the desired degestive organisms.

In this connection the method of handling pen manure, described on page 411 in the previous volume of this journal, is deserving of consideration. Intelligently and energetically applied, it permits of the preparation of large quantities of pen manure of high quality. Large quantities of vegetable matter, in excess of the actual fodder requirements of the animals employed in its preparation, can be employed, causing a large quantity of good manure to be produced continuously under conditions where there is little loss of fertilizing material. The preparation of comparatively small heaps of manure, which are soon turned over into the receiving pit, permits of efficient æration, and of the rotting of the resistant fibres by the organisms under discussion; while the protection from rain prevents the washing away of the valuable fertilizing, ingredients, which contribute largely to the value of this indispensable fertilizer.

The scientific study of the chemistry of the manure heap is now engaging attention in many important institutions. From these investigations we may expect the enunciation of many important principles having a direct and useful bearing on practical agriculture: indeed some of these are already in evidence, and reference to them will be found in the pages of future issues of this journal as occasion offers.

A very important bit of work in this direction has already been referred to in a note in the *Agricultural News*, Vol. XVIII, p. 361, namely the success of DR. HUTCHINSON, at Rothamsted Experimental Station in obtaining a pure culture of organism capable of bringing about the decomposition of straw. It must always be borne in mind, however, that the presence of such organisms, whether obtained from the excreta of animals or in the form of pure culture, is requisite for breaking down vegetable fibres.

There is, however, one lesson which may have immediate application on the part of planters. The present is an opportune time to give earnest attention to the manner of producing and using all the vegetable matter available or capable of being economically produced. In this work attention should be given to the proper care and storage of pen manure. This may entail expenditure on stables, cattle pens, and manure sheds; but now that most crops are bringing high prices, the time is opportune for expenditure in this direction, notwithstanding the high cost of building material, for use may be made or material locally available; and, costly as imported building material may be, it will, doubtless, be well to employ it, for it will lead to increased output while values are high, and it will put the plantation into a condition of efficiency to give good returns when prices have fallen.—*Agric. News*, Vol. XIX, No. 463.

NOTE ON THE CONSERVATION OF CATTLE URINE.

By Mr. H. C. Sampson, Dy. Director of Agriculture.

*(Reprinted by the Publicity Bureau.)**

Experiments have been made by the Agricultural Department of the Central Provinces to test the value of cattle urine as a manure. This has been found to be of very great value, and under certain conditions the urine collected from one bullock has been found to be of greater value than the dung of the same animal collected during the same period.

The following is the method of conserving cattle urine as adopted in the trials above referred to :—

"On the floor of the cattle-sheds spread 6 inches of fine dry earth kept in position by means of a plank of wood of the same depth. The earth absorbs the urine and retains the nitrogen, and is, therefore, a most valuable manure. The surface of this layer of earth should be kept loose and powdery by stirring it daily with a *mammottie* or other tool. The earth should be stored in a pit or spread in the field after it has been allowed to lie for about a month in the stall ; a fresh layer should then be put into the stalls."

Some modification of this system seems quite capable of easy adoption in this Presidency. Such a system, if adopted, should add much to the comfort of the ryots of the Ceded Districts, and in other places where cattle are kept in the dwelling-house. An adoption of this method would mean a clean and odourless floor and better health both to the people and to the cattle, while in return for the extra trouble a valuable manure is obtained.

In many places such as Tinnevelly and parts of Madura and Coimbatore, cultivators already pay special attention to the preservation of cattle manure. This is stored in pits, and at intervals of week or more the manure is covered over with soil or tank silt. If the manure is too dry, it is even sometimes watered. If this soil or tank silt were replaced by a sandy soil which had been placed in the floor of the cattle-shed and allowed to absorb the urine of the cattle in the way described above, the ryot would be able to nearly double the value of his manure.

On the West Coast, there is, in the South Kanara district, already an excellent system of preserving both cattle manure and urine. The floor of the cattle-shed resembles a pit some three feet deep. The dung is not removed from this, but is covered over daily with fresh jungle leaves and other fresh vegetable matter. This operation continues until the pit is full when the whole is emptied and either taken to the field or stored in a neatly made manure heap. It would be difficult to improve on this method, provided that the supply of jungle leaves is available, but in many cases this is not the case, and though it may be possible to maintain a supply of leaves and other fresh herbage during the rains, in the hot weather months this system of using dry earth as an absorbent for cattle urine might easily be adopted in places where jungle leaves have now become scarce.

In Malabar, where possible, the South Kanara system of using leaves as litter for the cattle should be adopted, but on the Sea Coast where leaves are not available, this dry earth method might be tried. There is great room for improvement in Malabar in the method of dealing with cattle manure. For several months in the year, this is in a semi-liquid condition and subject to all weathers, with the result that the most valuable manurial ingredients

* Further copies of this pamphlet may be obtained from the Publicity Bureau, Victoria Buildings, Egmore, Madras.

are washed away. This could easily be consolidated by mixing with it leaves, twigs, weeds and other vegetable growth which is so luxuriant during and after the monsoon, while the dry earth removed from the shed could be used to cover the dung, and in time it would become more or less incorporated with it.

In Tanjore and many other East Coast Districts one sees that often considerable trouble is taken to house the cattle, but that no attempt at all is made to conserve the urine. This is either allowed to soak into the solid floor of the shed or else is drained off into the village street, where it becomes a public nuisance. This dry earth method of conserving the urine as adopted in the Central Provinces and described above might very well find a place here, and would add much to the ryot's manure supply, and consequently to the yield of his crops.

LETTERS TO THE EDITOR.

(*The Planters' Chronicle is not responsible for the opinions of its Correspondents*).

R. O. C. No. 122/20.

Coimbatore, 8th June, 1920.

From

ROLAND V. NORRIS, ESQ., D. Sc., F.I.C.,
Government Agricultural Chemist,
Coimbatore.

To

THE EDITOR,
The *Planters' Chronicle*,
Coimbatore.

Sir,—I can perhaps provide "Hibou" with some of the information he seeks in his letter, published in your issue of May 22nd. Hibou, referring to Mr. Anstead's article on page 312, asks:—"Apart from the error in calculation, assuming No. 2 mixture had been equal in plant food to No. 1, why is the former more valuable than the latter ?"

We may assume that Mr. Anstead was referring to estate soils in South India. Now, in such soils, considerable difficulty is usually encountered in maintaining an adequate content of organic matter, the untreated soils being frequently deficient in such material. Further, such soils are usually exposed to heavy rainfall, and being situated on steep slopes are subject to free drainage. These considerations have a decided bearing on the relative value of the two mixtures under discussion. No. 1 contains a comparatively small amount of organic matter, and its nitrogen is nearly all present in a highly soluble form, which is not retained by the soil. Consequently, this mixture is not particularly suitable for the conditions described above, because (1) it fails to supply the necessary amount of organic matter, and (2) there is likely to be an excessive loss through drainage of the most expensive portion of the manure, namely the nitrogen. In No. 2 mixture on the other hand, there is a large amount of organic matter to improve the physical qualities of the soil, and, in addition, the whole of the nitrogen is present in such a form that it is fixed in the soil, though at the same time it readily becomes available for the crop. It is not sufficient, therefore, to value a manure merely on the amount of plant food it contains. The nature of that plant food must also be considered in relation to its chemical and physical action on the soil, under the conditions in which it is to be used in any particular case.

I have the honour to be, etc.,
(Signed) ROLAND V. NORRIS,
Government Agricultural Chemist.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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THE PLANTING MEMBER OF COUNCIL.

The procedure, under which the Planting Member will, in future, be elected will differ very materially to that in force heretofore. Hitherto, the Planting Member has been elected by personal votes of the members of each District Association, the Honorary Secretaries of which then forwarded the names, of the candidates elected, to the Secretary of the United Planters' Association of Southern India, who gave to the decision, arrived at by each District Association, the value its vote was entitled to exercise at a General Meeting of the U. P. A. S. I., and on this basis the final election of candidates was decided.

In future every planter a member of an Association, affiliated to the United Planters' Association will independently cast his vote.

As regards the Planting Constituency, the Secretary of the U. P. A. S. I. will be appointed the Registration Officer for that constituency, and it will be his duty to prepare a Roll of persons entitled to be registered as electors. Only firms and persons, who on the 1st August are entitled to the rights and privileges of the U. P. A. S. I. shall be entered on the Roll, which provides that the father's name of the elector must be given, and this is a point we would specially draw attention to, both of individual planters and Honorary Secretaries of District Associations, for it is a detail the latter would not usually be able to supply. Not later than 15th August, copy of such Roll must be hung on the notice board in the office of the U. P. A together with a notice specifying the time within which claims and objections should be

preferred and the date and place at which the revising authority will sit for their disposal, such date not to be later than 10th September. The revising authority is to be the Registration Officer and two members of the Committee of the Association, they will pass orders in writing on each claim or objection and order such corrections in the preliminary Roll as may be necessary. This will then be printed, and a copy forwarded to the Secretary to the Legislative Council not later than 1st October, and spare copies kept for inspection and sale at the office.

Not later than 40 days before the date fixed for the holding of the election the Returning Officer (in the case of the Planting Constituency the Secretary of the U. P. A. S. I.) shall issue a notice stating the time by which nominations should be presented, the date and place at which the poll will be taken and publish such notice in the office, in the *Fort St. George Gazette* and such newspapers as he may select.

The nomination shall be made by means of a form which will be supplied by the Returning Officer to any elector whose name is on the electoral roll for the constituency, it must be subscribed by two electors as proposer and seconder, and the candidate must subscribe to a declaration on it expressing his willingness to stand for election and naming his election Agent. On the day appointed for the receipt of the nomination papers and immediately after the hour for their receipt is past, the Returning Officer shall allow every candidate, his election Agent, proposer or seconder to examine the nomination papers of all candidates, which have been received, he shall then decide all objections which shall be made, and reject nomination papers not in order, then make up a list of valid nominations and publish it on the notice board of his office.

Not less than 15 days before the date fixed for the scrutiny and counting of votes the Returning Officer shall issue through the post a ballot paper to each elector together with an envelope bearing the same number as the ballot paper and addressed to himself. With each ballot paper will be sent a declaration form, stating that the voter is an elector, and has signed no other voting paper in regard to that constituency, this must be signed in the presence of two persons who personally know the elector, who will then record his vote by placing a mark against the name of the candidate of his choice, and return both declaration and vote to the Returning Officer by registered post, so as to reach him by the time fixed for the election, or the elector may at his option deposit the envelope in a ballot box which shall be provided at the office of the Returning Officer.

On due date, in presence of such candidates or their agents as desire to be present, the Returning Officer will examine and count the votes received, and record the number secured by each candidate, and declare the election of the candidate to whom most valid votes have been given. All papers will then be sealed up for record.

It is incumbent on all Planters, who wish to exercise their right of voting, to see that their names are included in the Electoral Roll, and as these will be prepared from returns received from the Honorary Secretaries of the District Associations, they are advised to at once send in their names, their father's names and their own full address to the Honorary Secretary of their Association, application should not be made direct to the Secretary of the United Planters' Association, as he will in some cases be unable to decide whether an applicant is a member of a local Association affiliated to the U. P. A. S. I. or not.

—H. WADDINGTON,
Secretary, U. P. A. S. I.

LIABILITY OF TEA COMPANIES TO PAYMENT OF INCOME TAX.

Although, under the Calcutta High Court judgment in the test case, instituted by the Killing Valley Tea Company, it was ruled that the assessment which had been made could not be sustained, it was held that Tea Companies are liable to the limited extent of assessment on the profit derived from the manufacture of tea. If the Government of India decide to continue with the matter, it will be necessary to frame rules, to settle, when tea ceases to be an agricultural product, and at what stage it becomes a manufactured article, and how the profit on manufacture is to be worked out. We have no doubt that the United Planters' Association of Southern India will place the care of the interests of Tea Planters in Southern India in the hands of the Indian Tea Association, who have so efficiently conducted matters up to the present stage. We would particularly warn planters against becoming involved in discussion, of matters of detail, with officials, as being liable to prejudice our case, if their argument should not exactly follow that put forward by the Indian Tea Association in its representations to the Government of India.

H. WADDINGTON,
Secretary, U. P. A. S. I.

MUNDAKAYAM PLANTERS' ASSOCIATION.

Mr. J. J. Murphy, Chairman of the Mundakayam Planters' Association, writes as follows :—

Dear Sir,—I shall be obliged if you will publish the enclosed copy of a letter to the Secretary, U. P. A. S. I. in an early number of the Chronicle.

Yours faithfully,
(Signed) J. J. Murphy.

(Enclosure)

MUNDAKAYAM PLANTERS' ASSOCIATION.

Yendayar Estate,
Mundakayam P. O.

H. Waddington Esq.,
Secretary, U. P. A. S. I.,
Coimbatore.

Planters' War Fund.

My dear Waddington,

I thank you for your No. 429 of the 24th instant with reference to the allotment of Rs. 50,000 from the above Fund to the General scheme of Nursing Homes in the Presidency of Madras put forward by Lady Willingdon.

I sent your letter on to Mr. Vincent, one of this Association's representatives on the U. P. A. General Committee. He writes :—"Beyond the "discussion at the Annual General Meeting, where the feeling of the "Meeting was that no decision should be come to with regard to the "disposal of the War Fund, the disposal of these Funds has nowhere come "up for discussion before the General Committee or elsewhere, to my "knowledge. Subscribers to the Fund have not been circularised for their "opinion as to the disposal of the Fund, although the War Memorial scheme "has been ventilated, and although General Committee Members were aware "that there was a big amount standing to the credit of the Fund "and might possibly be used for sundry objects." This disposes, so far as

Mr. Vincent is concerned, of your contention that you tried to ascertain the views of planters through the recognised channel of the General Committee. Our other representative, Mr. Eric Hall, is, I understand, away from the district at present, so I cannot give you his comments. In his report on the General Committee meeting, held on the 1st November last, he wrote :— "*Planters' War Memorial.* There was very little discussion on this point, "as the amount of money likely to be subscribed is so uncertain. It is pro- "posed to ascertain the likely subscriptions, and then it will be possible to consi- "der what form the Memorial should take. The various suggestions circulated "by the Secretary were discussed, but it was obviously waste of time to go on "without an idea of the amount to be disbursed, and the subject was dropped." From this it would appear that, at the meeting, no serious proposal was made to hand over War Fund money to a Nursing Home scheme. Neither was the proposal mentioned in the U. P. A. circular of the 18th October, nor in the December Progress report, nor in the circular of the 27th March. In fact, it made its first appearance in the Chairman's letter of the 24th April, on receipt of which I immediately wired a protest on behalf of my Association. It certainly is the case that at Bangalore, last August, after Mr. Nicolls, the chairman, had said in open meeting that the Executive Committee might at the next meeting be able to place some scheme before members for the disposal of the War Fund, Mr. Cook, in Committee, said that when the Association decided the final use of the Fund they might be able to allot it to the War Memorial. But this suggestion, which was far from being a definite proposal, was opposed by Mr. Malcolm, and received apparently no support from members. The proposal, then, to pay away Rs. 50,000 of War Fund money was made for the first time on the 24th April, was received in planting districts at the end of April or early in May, and was agreed to by the Executive Committee on the 11th May, before all replies had been received from General Committee members, and before it had been considered by a general meeting of any district association with, I believe, one exception—the Nilgiri P. A. meeting at which Mr. Dandison, by what be no doubt looked on as a happy coincidence, was able to read all correspondence dealing with the matter. And, as no good reason has been put forward for the extraordinary haste shown by the Executive Committee, my Association considers it unwarranted. The Executive Committee's decision is objectionable because—

(1) No notice was given to subscribers of the proposal to dispose of the War Fund.

(2) No mandate was ever given, either by district associations or by a meeting of the U. P. A. S. I. to the Executive Committee, or to the General Committee to dispose of the Fund.

(3) Associations and subscribers had no opportunity of ventilating their views and opinions before the Executive Committee arrived at a decision on the 11th May.

My personal opinion, for which, had time permitted, I would have sought support, is that to hand over the money at credit of the Fund to Homes for blind and crippled soldiers would be far better, and infinitely more in keeping with the spirit in which subscriptions were so willingly made than to allot it to institutions for the benefit of subscribers themselves.

There is, also, more at stake than the transfer of Rs. 50,000. There is a question of principle involved affecting the future working of the U. P. A. S. I. Are district associations to have any voice outside of the annual U. P. A. meeting in important questions which cannot be held over to the next meeting, or, are such questions to be decided by the Executive Committee without taking adequate steps to ascertain planting opinion?

I am sending a copy of this letter to the *Planters' Chronicle* for publication.

Yours sincerely,
(Signed) J. J. MURPHY,
Chairman, Mundakayam P. A.

Note by Secretary, U. P. A. S. I.

I have no remarks to make as to Mr. Murphy's argument, but for the sake of accuracy, would explain that, immediately on receipt of the Proceedings of the Mundakayam Planters' Association Meeting of 17th January, I wrote officially to the Secretary of that Association, pointing out that Mr. Hall's report as to what occurred with reference to the War Memorial was incorrect. The question of using the funds at credit of the War Fund for the purpose of the proposed Memorial was discussed, but the only resolution put was that the matter be left in the hands of the Executive Committee. Again, at the Meeting of the Executive Committee, held in Madras on the 8th February, to which all Associations were asked to send representatives, the matter was fully gone into, and, it is with regret that I learn anyone should think the matter had been unexpectedly sprung on them.

(Signed) H. WADDINGTON.

RUBBER PLANTATIONS IN CAMERUN.

By Alfred Dominikus.
(*The India Rubber World.*)

It cannot be denied that the Germans, in so far as conditions permitted, did their best to further the cultivation of rubber in their former African colonies which were taken away from them by the war, but that on the other hand, many disastrous mistakes and errors were made which prevented the expected successful results from the work. Consider for example, former German East Africa. Since the ground was not suitable for *Hevea brasiliensis*, the Ceara rubber tree (*Manihot glaziovii*) was cultivated in this district, but it cannot be said to-day that there was any special success in the cultivation which some years ago was stigmatized scientifically as a distinct mistake.

The English, who are masters of the colony they now call Tanganyika —that is to say, English companies such as East African Plantations, Lewa Rubber Estates, Kamma Rubber Estate, and the Muhesa Rubber Plantations—at the time of the rubber boom, with its deep shadows, took over the best *Manihot* plantations of what was then German East Africa without obtaining any better results.

A still more manifest failure can be recorded regarding the *Kickxia* (*Funtumia elastica*) plantations in Kamerun. When Dr. Schlechter, on the basis of the results from his West African rubber tree (1899-1900), praised the agricultural value of the *Kickxia* in the highest terms, designated the cultivation of his species as "extraordinarily profitable," and recommended it, especially for West Africa, "since it is native to the country, and therefore surely seems to offer better prospects for success than the various rubber trees of other portions of the world" it naturally resulted that the work of cultivating the native African rubber tree should be eagerly taken up in former German Kamerun. Dr. Schlechter had stated that a tree seven years old had given 3,400 cubic centimeters of latex, out of which 2,000 gram of rubber were obtained; also that trees not yet six years old had yielded 140 to 170 grams of dry rubber, from which he inferred that the trees could be tapped four times a year, and perhaps even more frequently with similar results. It was said in the prospectus for a plantation scheme,

that *Kickxias*, about fifteen years old gave on the average in the course of three years seven pounds of rubber per tree and per year. And what were the results of his Kamerun *Kickxia* fever ?

Information on this is given in an article by Heinrich Picht in the *Tropenpflanzer* for January and February, 1920, on the prospects of profits from some Kamerun plantations. As remarked above, and as Picht states in the introduction to his article, the *Kickxia* cultivation in Kamerun was taken up at the time with great hopes. From the quality of the rubber obtained and the reports of professed scientific men on the results, these hopes seemed to be thoroughly justified. Yet hardly any such tropical culture has brought on the bitter disillusions that *Kickxia* has ! The author gives proof of this plainly from more definite statements of the results of tapping which he caused to be made and could verify in part. The figures reported by Picht are given in the following table :—

No.	Year.	Age of Trees Years.	Total Number of Tappings.	Total Yield of Dry Rubber. Kilos.	Rubber Yield Per Tree & Tapping. Grams.	Rubber Yield Per Tree & Year. Grams.	Per Cent of Latex to Dry Rubber.
1	1911	5·7	214,298 (about half of trees 2 x tapped) ...	16,929	7·9	11·7	30·0
2	1912	6·8	353,350 (part of trees 3 x tapped) ...	2,827	8·0	...	28·9
3	1913	6·10	194,755 (part of trees 3 x tapped) ...	1,316	6·7	21·1	22·6

Picht unfortunately cannot give a reliable scale of crops ; yet tree production increasing from the sixth to the tenth year from 10 to 50 grams seems to him attainable. When Preuss puts the yearly yield of a six-year *Kickxia* at 50 to 60 grams, that of a 15-year tree at 500 grams of rubber, his statements find as little support in the results reported in the article before us, as do the assumption of Schulte im Hofe that a tree with a trunk circumference of 50 to 55 centimeters will yield about 100 grams, or the crop estimates of the English investigator Christy, who assumes that the yield of five to ten-year trees increases from 85·2 to 426 grams.

At all events Picht believes, on the basis of his experiences before the war, that it is useless to speak of profitable results from *Kickxia* in a tropical agricultural sense, but that at best we can consider only the value of the individual trees, which can be realized only on their being tapped to death, but which in comparison with the clearing necessary to open up a new form of cultivation amounts practically to nothing. This led one Kamerun planter in an excess of rage to set fire to his whole *Kickxia* possessions.

Thus, to use Picht's words, *Kickxia* was the most unpleasant chapter in the history of Kamerun plantation, and it must be looked upon as a great piece of good fortune that the amount of capital invested in this cultivation is comparatively small and that the estates, which at first turned extensively to *Kickxia*, for the most part were diverted at the right time to other cultures, so that the *Kickxia* portion in them sank to the rank of an unimportant side culture. Moreover, we should mention here what Picht does not state, that at the beginning great plots of *Kickxia* were planted which did not belong to the species *K. elastica*, but were obtained from specimens of the wholly valueless species *K. africana*, as was only discovered later.

In another article (*Tropenpflanzer*, January, 1920), Picht treats of the prospects of profits from the *Hevea brasiliensis* in Kamerun and forms a wholly different judgment. In view of the amazing profits obtained from the rubber plantations of Eastern Asia and of the increasing lack of confidence in the results of the *Kickxia* the Kamerun planters turned to the cultivation of *Hevea*. After they had succeeded in obtaining *Hevea* stumps in large quantities from Eastern Asia and transporting them to West Africa, there was no difficulty in raising this tree, especially as the ground and the rainfall conditions in Kamerun were in every way favourable.

At the outbreak of the war large *Hevea* plots in Kamerun had reached an age that permitted tapping. Picht, who made a journey to Ceylon and the Straits Settlements in 1910-1911, was in a position to make comparisons between the growth of the *Hevea* there and in Kamerun. He was unable to see any difference. Later he was able, on the basis of experiments which were made on the plantations under his care, to give figures which allow safe inferences to be drawn on the profitable character of *Hevea* cultivation in Kamerun. He prints a table taken from the "Straits Times" on the average yield of *Hevea* of various ages, and then gives more detailed accounts of what the Kamerun *Hevea* yielded in comparison. The results of the figures follow:

No.	Age of Heveas. Years.	Number of Tappings (Renewed Cuts) Per Tree.	Rubber Yield Per Tree. Kilos.	Straits Figures for Comparison. Kilos.
1	6	205	1·16	0·725
2	5	125	0·5	0·35

The yields in Kamerun are, therefore, substantially greater than in the Straits, which is the consequence probably of the richer soil in Kamerun and the better rainfall condition there. It should be mentioned also that the above tappings were made with an extremely careful regard for the bark, such as has gradually been shown to be the best thing in Asia. *Hevea* in Kamerun is generally planted mixed with cacao—about 180 *Hevea* and 542 cacao trees to a hectare.

Picht presents more detailed estimates of profits, and comes to the conclusion that in Kemerun, whose negroes have shown themselves to be an industrious and relatively cheap form of labour, *Hevea* cultivation should profit by the expensive experience gained in other countries, with results no less successful than in East Asia.

African Notes.

From the Gold Coast of Africa comes an interesting report of the Agricultural Department for 1918, which shows a steady purpose of building up again the rubber trade under discouraging circumstances. Less than ten years ago, West Africa was exporting over 14,000 tons of rubber, and seemed to have an even chance with the plantations of the Far East. The Government keeps up nine agricultural stations which report on rubber cultivation. Those at Tarquah and Cormassie have 78 and 60 acres, respectively, devoted to rubber; the others are much smaller. On all, elaborate experiments are being made in tapping, in planting, in the distance from each other of the trees, and the diseases which seem to be unduly prevalent, are studied. Small farms, planted with rubber, are prepared for the natives, who cannot be made to take an interest in them; the white planters, too, care little for rubber.

The cause of the depression is ascribed to the war, but it is more likely due to the hopelessness of contending with the triumphant Asiatic plantation rubber. Still the statistics demonstrate that on the Gold Coast and in the surrounding territory the physical conditions for growing *Hevea* rubber, as well as that of the indigenous *Funtumia elastica* are very favorable, if the proper

supply of labour can be obtained, and that England can fall back on these possessions for her rubber supply in case any political or other disaster were to deprive her of her East Indian and Malayan territories.

Exports from French West Africa, of which rubber forms an important part, were interfered with on account of the deficiency of vessels in the period following the armistice. The figures were:

	Pounds.	Value.
French Guinea ...	1,559,800	$683,730
Ivory Coast ...	547 800	240,406
Senegal	719,400	315,994
Totals ...	2,827,000	$1,240,120

In 1917, French West Africa exported 2,873,200 pounds of rubber, valued at $1,260,396. Only $5,734 worth of rubber from the Ivory Coast went directly to the United States.

Singapore Gutta Perha Exports.

As an example of the upward tendency in the prices asked for gutta percha, it may be stated that "Pahang red" which five years ago cost approximately $158 per picul (133-1-3 pounds), rose to $312 at the close of 1919, with supplies even at this price practically unobtainable. Similarly, "Banjirmassin" increased from $85 to $142 during the same period, and this may be taken as a fair average of the advances made on all grades of gutta percha during the past five years. It will thus be seen that increases of 80 to 100 per cent have taken place.

Gutta percha to the amount of 1,469 long tons, valued at $1,468,792, was imported into Singapore during the year 1918. Of this amount, 1,372 tons, at a value of $1,358,764 were imported from the Dutch East Indies, while only 91 tons, valued at $107,431 were imported from British North Borneo, Sarawak, and the Federated Malay States.

Of gutta inferior, 5,243 tons, valued at $518,975 were imported into Singapore during the year 1918, most of which came from Dutch Borneo and Sarawak, Sumatra furnishing only 300 tons.

The following table shows the quantities, values, and countries of destination of gutta percha and gutta inferior exported from Singapore during 1918:—

Countries of destination.	Quantity. tons.	Value.
GUTTA PERCHA.		
United Kingdom	1,596	$1,556,357
Canada	138	44,895
France	113	43,909
Italy	30	11,447
Japan	33	22,755
United States	1,230	362,736
Totals ...	3,140	$2,042,099
GUTTA INFERIOR.		
United Kingdom.	99	9,539
Canada	71	6,365
Australia	17	1,797
Other British possessions ...	1	42
France	10	1,022
Japan	144	16,009
United States	834	89,959
Other foreign countries	2	227
Totals ...	1,178	$124,960

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, 25th May, 1920.

PROCEEDINGS.—The proceedings of the meetings, held on 27th April and 11th May were confirmed after previous approval in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION, LONDON.—A letter dated 29th April had been received from the London Association. The only subject dealt with in it was—

Diversion of steamers from London to outports in the United Kingdom.—In the proceedings of the last meeting, held on the 11th May, it was intimated that an amicable settlement has been reached on this question between the Anchor Brocklebank and City Lines on the one side and the London Committee, as representative of shippers on the other, while a reply from the Clan Line was still awaited. It was further stated that the terms of the agreement were that shippers should be reimbursed, at the rate of 62*s.* 6*d.* per freight ton, the equivalent of ¾*d.* per pound, on the teas diverted. The London Committee strongly recommended all its members to accept delivery of the teas at the out-ports at this rate.

In their letter under consideration the London Committee stated that, so far, no intimation of acceptance of the above terms had been received from the Clan Line. The other two Lines above mentioned had further agreed to pay any difference, in the event of quay and warehouse charges incurred on teas at the outports being in excess of those which would have been incurred had the teas been delivered at London.

In some cases, apparently, the transhipment teas had already been transhipped, and these, the Committee ruled, were to be excluded from the scope of the agreement. Additional details of the situation in this connection, especially with regard to the degree of congestion still prevailing at the London Docks, are given in the sub-joined circular issued by the London Committee:—

The Allocation Committee have drawn attention to the fact that some Importers are giving instructions for their teas at outports to be brought to London without delay. I am directed to inform you that this procedure is entirely opposed to the policy which has been advocated by the Committee. It was never contemplated, under the settlement recommended with the Anchor-Brocklebank and City Lines, that the diverted teas should be brought to London before there was available accommodation; it was, indeed, the main purpose of the settlement negotiated with the Steamer Companies to retain the teas at outports until the congestion in the Port of London, especially in the Bonded Warehouses, had been overcome. The allowance of 62*s.* 6*d.* per freight ton was intended to cover, amongst other risks, the cost of retaining the teas at the outports for some considerable time, or, alternatively, the risk of accepting a lower price than the current London rates for sales at the outports. At present, the diverted teas cannot be dealt with except by being sold for delivery locally or for export abroad. To bring them to London would add to the difficulties of the position by creating fresh congestion at the Port of London, and members, who are not able to dispose of the teas where they are landed, are strongly advised not to bring their teas to London until the Allocation Committee intimate that they can be properly dealt with.

INCOME TAX: LIABILITY OF TEA COMPANIES TO PAYMENT OF INCOME TAX:—A reference to this case was made in the proceedings of the last meeting, in which it was stated that the hearing had been postponed until the 17th May. The hearing duly took place before a Special Bench of the High Court on the date arranged, and judgment was reserved. A letter dated 18th May had now been received from Messrs. James Finlay & Co., Ld., forwarding a letter of the same date from Messrs. Orr, Dignam & Co. in this connection.

The Committee directed that this letter should be recorded, pending publication of the judgment.

PROPOSED LEGISLATION REGARDING THE SALE OF FERTILISERS IN INDIA.—In the proceedings of the meeting, held on the 30th March, a short resume of the history of Government's attitude towards this question was given. It was there stated that the necessity for this form of legislation was now undisputed. In the concluding paragraph of those proceedings, it was intimated that the Scientific Department of the Association and the several Branches and Association had been asked for their views on the proposals put forward by Government in connection with the suggested bill. These replies had now been received. Meantime, the Revenue Department of the Government of Bengal were pressing for the opinion of the Association on the advisability of introducing some such legislation as that embodied in the draft bill, which had been forwarded by Government for criticism and report.

Accordingly the Committee appointed the following Sub-Committee to deal with the question:—The Hon. S. J. Best, Messrs. W. M. Fraser and J. Ramackers. The Sub-Committee hoped to be in a position to avail themselves of the presence in Calcutta of Mr. Chapman, of Messrs. Balmer Lawrie & Co., who was a practical expert in the subject under discussion, and that they would be able, after consideration and collation of the various opinions in answer to the Committee's circular, to complete their report on the bill in the course of the week.

HOMEWARD PASSAGES.—In the proceedings of the meeting, held on the 27th April, the text was given of a letter, dated 3rd May from the Committee to the Bengal Chamber of Commerce. In a letter dated 19th May the Chamber now replied to the Committee's letter. They stated that they were in consultation with the Liners' Conference with regard to the suggestion embodied in the Committee's letter of 3rd May. The Committee noted this information with much satisfaction, and also the terms of the following letter addressed by the Chamber to the Government of India, Department of Commerce:—

Letter No. 1552—1920, dated Calcutta, the 19th May, 1920.

From—The Secretary, Bengal Chamber of Commerce,

To—The Secretary to the Government of India, Department of Commerce.

I am directed to acknowledge the receipt of your letter No. 1373, dated 22nd April, 1920, with reference to the question of passages as between India and the United Kingdom.

2. The Committee of the Chamber are indebted to the Government of India for communicating to them the message, dated 5th April, from the London Chamber of Commerce, in respect of the *ex*-German liners. They note, however, that the figures given in this telegram are incorrect: and that the total number of berths provided for the general public on these steamers is 2,445.

3. So far as the present homeward passenger season is concerned, it is now, the Committee feel, too late for further action to have any useful result. They anticipate, however, that severe congestion will be experienced in the

autumn in respect of outward passages, and next spring in respect of homeward passages. In view of this probability, they have instructed me to place the following considerations before they Government of India. In the years immediately preceding the outbreak of war the number of cold weather visitors to India was, as the Government are of course aware, becoming annually greater. The war put an end for the time being to this particular class of passenger traffic. But the experience of last cold weather suggests that it is being revived, and that it may, and possibly will, largely develop. The approaching visit of His Royal Highness the Prince of Wales may also be expected to encourage it, inasmuch as His Royal Highness' presence in this country will almost certainly induce a number of pleasure-seekers to pass next winter here.

4. The Committee of the Chamber would like it to be clearly understood that they do not take the least exception to the cold-weather visitor. On the contrary, they would be disposed to think that, in normal times, his presence in India in large numbers would be advantageous, inasmuch as, among other things, it would tend to make the conditions of life in this country better known and appreciated in the United Kingdom, and elsewhere. But they fear that the unrestricted admission of visitors at the present time, when so few commodious passenger steamers are available, may re-act seriously on the interests of those who ordinarily reside in India. It is unlikely that the steamer accommodation next cold weather will be sufficient for the regular Anglo-Indian passenger trade. And, if this be so, it follows that the influx of a considerable number of pleasure-seekers must mean delay, inconvenience, trouble and loss to those residents—both official and non-official—who are compelled to travel to and fro periodically for reasons of business and of health.

5. In view of these considerations, I am to suggest to the Government of India that the Right Honourable the Secretary of State should be asked if it would not be possible, during the approaching outward passenger season, to place some restriction on the entry of cold-weather visitors. It is presumably the intention of the Government still to require all passengers to India to be provided with passports; and discrimination in the issue of these documents would seem to be a practicable way of controlling the traffic. I am to make it clear that the Chamber would be strongly opposed to any restriction on the issue of passports to those who ordinarily reside in this country, or have *bona fide* business interests here which require their attention. But it is unreasonable that those who contemplate visiting India merely for purposes of pleasure should be allowed—as may be the case in the absence of restriction—to hamper the movements of the ordinary residents of the country. The exercise, in this country, of a corresponding measure of control over passports could also be required in respect of homeward passengers in the spring of next year. Such restrictions would necessitate a close scrutiny of all applications for passports, and the refusal of applications from persons who might be unable to show that their journey was to be for purposes other than those of pleasure.

6. The Committee quite realise that it would not be easy to enforce these proposals; and, on general grounds, they are opposed to the exercise of any official control over passenger traffic. But in the exceptional circumstances which now prevail, and which will continue for some time longer, it is imperative that protection be afforded to the regular passenger as against the mere pleasure-seeker. They accordingly venture to commend their proposal to the careful consideration of the Government of India.

"LABOUR IN THE F. M. S. INDIAN IMMIGRATION MEETING OF THE COMMITTEE."

(The Malayan Tin and Rubber Journal).

A meeting of the Indian Immigration Committee was held in Kuala Lumpur, on Monday, May 10, 1920. There were present the Acting Controller of Labour (Mr. Oliver Marks), the Chairman, the Principal Medical Officer, Federated Malay States (Dr. C. L. Sansom, C.M.G.) The Director of Public Works, Federated Malay States (Mr. W. E. Kenny). Mr. E. E. Smith, Mr. W. Duncan with the Deputy Controller of Labour, Klang, (Mr. W. J. K. Stark) as Secretary.

A letter was received from Mr. C. W. Bradburne regretting his inability to attend. Mr. E. Macfadyen and Mr. T. H. Menzies were also absent.

The minutes of the last meeting, held at Penang on March 31, 1920, having been circulated, are taken as read, and are confirmed.

The figures of Immigration and Emigration (as under) from January 1 to April 30, 1920, compared with figures for the same period since 1911 are laid on the table.

	Arrivals,				Departures.	
	State	Aided.	Ordinary			
	Adts.	mins.	Adts	mins.	Adts.	mins.
1911	19,010	1,526	4,513	273	17,594	623
1912	15,120	1,103	6.619	398	22,139	787
1913	15,707	1,233	6,391	455	27.827	1,347
				(up to 6-8-14)		
1914	11,875	988	5,682	340	27,659	1,336
1915	4,364	291	2,178	141	21,429	996
1916	12,162	1,076	5.389	522	20,996	804
1917	15,171	1,455	6,121	432	22,751	889
1918	19,008	1,882	3,754	278	22,495	906
1919	13,369	858	4,434	602	19,468	811
1920	14,021	1.820	4.279	576	23,302	1,050

The Chairman states that these do not compare very favourably with those of the previous year, when it is recollected that Madras was closed for the first three months of 1919. The increase in the number of minors recruited is a satisfactory feature. Mr. Duncan considers the figures fairly satisfactory.

Kangani Licenses.

Copies of two statements showing figures relating to kangany licenses are circulated.

(*a*) The total number of kangany licenses registered in Penang for the six months, November 1, 1919, to April 30, 1920, was 5,806 (5,747 for Estates and 59 for Government Departments).

(b) During the first four months of the year, 4,474 Estate and 51 Government Kangany licenses were registered in Penang, as compared with 4,050 Estate and 38 Government during the corresponding period of 1919. During the year 1919, 8.521 licenses were registered. During the first four months of 1920, registration of 18 licenses was refused at Penang, while 107 were cancelled in consequence of reports received from the Emigration Agents in India as compared with 23 and 90, respectively, during the corresponding months of 1919.

The Chairman states that the Emigration Agent, Madras, is of opinion that more labourers could be recruited if more kanganies were sent to India, but that too many kanganies are being sent to the same villages and a better distribution would give better results.

Coconada Depot.

The ground plan of the new depot is submitted, and draft plans of the buildings circulated.

The Chairman reports that the estimate for all the buildings excluding sheds is Rs. 77,360. It is agreed to cable to the Emigration Agent, Madras, for a complete inclusive estimate.

Mayaveram Sub-Depot.

Two letters, dated the 22nd and the 28th of April, 1920, from the Superintendent, Emigration Depot, Negapatam, are read. Owing to the imposition by the Municipality of Mayaveram of several new conditions regarding buildings on the new site, and, in view of the Superintendent, Emigration Depot's report as regards the temporary necessity of this sub-depot, the Chairman is authorised to instruct the Superintendent, Emigration Depot, Negapatam, by cable, to inform the Chairman of the Municipality that, unless permission is granted to construct the buildings as originally approved, all work at the sub-depot will be suspended and notice of termination of the lease at the end of the year will be given to the lessor.

An application from the Madura Co. for increases of boat hire for shipment of emigrants is read. The Committee approves payment of the increase of four annas per adult, and one and a half annas per minor for three annas and one anna, respectively, on the understanding that, should the rates for shipping non-emigrant passengers be lowered, the rate will revert to the lower figure. The increased rates are to commence from the shippings taking place on and after June 1, 1920.

Quarantine.

A comparative statement of Quarantine expenses is circulated. The Principal Medical Officer undertakes to ascertain whether there is any explanation for the increase in expenditure at Port Swettenham, outside the general rise in every item of food consumed at the Depots.

Assessment.

A statement showing the assessment collected and the arrears of assessment due is circulated. The Chairman states that he does not wish to ask for permission at present to write off any of these arrears. Steps are being taken to collect them, and there are few really bad debts. Mr. Duncan regards the amount of arrears already collected as very satisfactory.

Audited accounts for the half year ending March 31, 1920, are laid on the table. Mr. Duncan suggests that, in framing estimates for expenditure in India, a lower rate of exchange than Rs. 175 to $ 100 be adopted. It is decided to postpone consideration of this to a later meeting. After discussion, the accounts are passed.

Rate of Assessment.

The Chairman submits an estimate of Revenue and Expenditure for the six months from March 31 to September 30, showing Revenue at $ 2,075,000 and expenditure at $2,155,610. It is agreed that, subject to the approval of the High Commissioner, the rate of assessment and the number of working days for the 3rd quarter, 1920, be the same as for the 2nd quarter 1920, viz., $6/- per unit and 78 days, and that the recruiting allowance remain at $ 10/-. The rates for the fourth quarter, 1920, will be considered and decided at the next meeting.

The Chairman reports that the Hon'ble Mr. A. F, Goodrich, having gone on leave, has resigned his seat on the Committee. The Committee approves the Chairman's action in suggesting to Government that Mr. J,

Mitchell be asked to rejoin the Committee on his arrival in Penang. The High Commissioner's approval of the appointment of Mr. T. H. Menzies in the place of Mr. F. G. Harvey, resigned, is communicated to the Committee. The Committee approves the suggestion to recommend to Government a successor in place of Mr. F. Macfadyen, who has left the country.

A letter addressed to the Secretary of the Planters' Association of Malaya from Mr. J. Bloomfield Douglas, on the subject of the conveyance of coolies from immigrant ships to the shore at Port Swettenham, is read. The Chairman is asked to address the British India Steam Navigation Co., through their local Agents, requesting that instructions be given for these ships to be brought alongside the wharf at Port Swettenham.

The Committee selects certain names out of a list submitted by the Secretary of the Planters' Association of Malaya, of gentlemen who are willing to visit India and report on conditions prevailing on the immigrant ships, and requests the Chairman to communicate with these gentlemen.

ABSCONDING COOLIES.

A letter is read from the British Adviser, Kedah, asking whether there are any customary limitations on the surrender of absconding coolies in the Colony and the Federated Malay States, and enquiring what is the practice in this respect. The Chairman reports that he has received complaints on all sides regarding coolies absconding to Kedah from the Federated Malay States, and the great difficulty experienced in obtaining their return. It is agreed that the Kedah Government be approached, with a view to Kedah coming into line with the Colony and the Federated Malay States.

The Chairman invites the attention of the Committee to certain instructions issued by an estate to its kanganies "to recruit only male coolies who are strong and healthy." A draft letter stating that the Committee will not sanction any such limitations to the activities of licensed kanganies is approved.

Correspondence on the subject of inoculation of coolies with anti-cholera serum is read. This has been submitted for the Emigration Agent at Madras and the Superintendent at Negapatam, and they have both replied that they are strongly opposed to such inoculation. The Committee is of the same opinion—as expressed in the minutes of the meeting of November 10, 1919.

The half-yearly report on the Home for Decrepit Indians is submitted, and, it is noted that the Home has shown better results recently. The Chairman reports that he has applied to Government for a vote of $60,000 for 1921 for the new Home which, it has been proposed, should be built at Port Swettenham.

The Chairman lays before the committee correspondence which has passed between the Acting Controller of Labour and the Depot Agents in India on the subject of the shortage of labour on estates in the Colony and the Federated Malay States, and the best means of increasing the supply. It shows that the accommodation and staffs at Madras and Negapatam are sufficient to deal with many more emigrants than now pass through the depots, that the immigrant ships can carry many more coolies than they are now doing, and that more coolies could be recruited by increasing the number of recruiting kanganies and by a better distribution of the kanganies in India. Both the Agents and the Controller agree in thinking that the existing recruiting commission is sufficient.

The Chairman reports that an officer has been appointed in the Labour Department to supervise recruiting by Government kanganies in India, and to advise Heads of Departments in the Federated Malay States.

The next meeting is provisionally fixed for Monday, August 9, 1920 at Penang.

NOTES AND NEWS.

The Fall in Prices.

The Grocers' Gazette, in a leading article on food prices, expresses the opinion that the reduction is partially due to seasonal reasons, and to be probably more largely attributed to a slump when the demand falls off. Tea, it is stated, is an instance, for the recent slump is attributed to the heavy supplies on the spot, dearness of money, the shortage of credit, and the tremendous storage charges. These are facts which are immediate and apparent, but those with the longer view realize that tea is selling below the cost of production, and that a period of such happenings necessarily has a limit, since other markets than England are open and willing to take the supplies.—*Madras Times.*

Soil and Fertiliser Analyses.

We have again to draw the attention of planters to the rules relating to these analyses. Notwithstanding the clear instructions given, and the many references we have made to this matter, planters continue to flood the U. P. A. S. I. office with samples addressed, for instance, as the last one was to "the Secretary, Scientific Department, U. P. A. S. I., Coimbatore." Once again, all samples of soil, and fertilisers, should be addressed direct to :—

The Government Agricultural Chemist,
Agricultural College,
Lawley Road P. O., Coimbatore.

Addresses by Name.

A fortnight ago, we reminded planters that the Superintendents of the Labour Department should be addressed as such, and not by name. The Government Agricultural Chemist experiences the same difficulty, apparently, as the Labour Department officers have done, for he writes :—" I should be glad if you would ask that letters and samples should not be directed to me by name, as this leads to unnecessary delay if I happen to be away touring."

The Australian Trade.

The Editor is in communication with a firm of Importing and Exporting Agents in Australia, and would be glad to hear of anyone interested in trade with Australia. There is apparently an excellent opening for coffee in the Antipodes, particularly if planters cared to make direct shipments, instead of through the usual exporters.

The Bound Volumes.

Several planters have recently asked us for bound volumes of the *Chronicle* of 1918. Unfortunately the spare copies of that year were stolen from the office, and the index to the volume was included in the stolen papers. We have but one spare copy in the office, and from this we are getting new indices printed. If any planter has a complete set of the 1918 issue and cares to send it along, we will have it bound for him, and include in it the usual index. Bound volumes for 1919 are in hand, and will be announced shortly.

In Lighter Vein.

Our correspondent of a fortnight back has trodden on some one's toes, who, in order to retaliate with more effect lapses, or is it rises, to the use of verse. In the words of the classics " this correspondence will now cease."

The Annual General Meeting.

Preparations for this proceed apace, and we hear that most, if not all of the available accommodation at Bangalore has been booked up.

Butterflies.

Would any planter care to exchange specimens of Indian Butterflies for Australian varieties. A young correspondent at Melbourne would like to get into communication with a brother enthusiast.

The Planting Member.

The election of the Planting Member of Council under the reforms scheme forms the subject of a special note by the Secretary in this issue,

occupying the space usually allotted to our leading article. The attention of Honorary Secretaries of District Planters' Associations is particularly drawn to this note, of which they should not fail to make a careful study.

The Planter.

This is the title of the official organ of the Incorporated Society of Planters, Malaya, and in anticipation of the first number, which we hope soon to see, we extend a hearty welcome to the new paper.

There is room in Malaya for a publication such as this, run by planters for planters. The present output of planting periodicals from that country leaves little to be desired from the scientific and commercial point of view. It needs but this little personal touch, which will no doubt make itself felt in "The Planter," to place Malaya in the foremost rank of rubber-producing countries from the journalistic point of view, which is only right in a country which holds pride of place in the production of the raw material which has made this journalistic enterprise possible.

A YOUNG PEERMADE PLANTER.

I am a Peermade Planter
And I am very young,
But I'll talk as much about it
As any man unhung.

If you wish to plant a totem
You must see you get good soil
And an equitable climate,
Or you may waste your toil.

You'd better have a road or two
And factory as well,
And p'raps a little engine,
And a horn or muster bell.

I have dealt with various factors
You must carefully consider;
So now you simply pluck your tea
And sell to highest bidder.

I have been a Planter
For—well just let me see—
About six months in rubber
And some months more in tea;

And this exhausts the subject,
Namely, planting tea,
If you don't know much about it—
You can sympathise with me.

"Well-wisher."

LETTERS TO THE EDITOR.

(*The Planters' Chronicle is not responsible for the opinions of its Correspondents*).

The South Indian Planters' Labour Association.

DEAR MR. EDITOR,—Perhaps one of your kind readers would inform me who are the gentlemen who compose the South Indian Planters' Labour Association.

I have received a circular from the above firm. I understood that a certain gentleman had been paid by the U. P. A. S. I. to report on the District that the above firm now propose to exploit. Perhaps I am wrong, perhaps dull, please blame the monsoon.

Yours, etc.,—Y. Z.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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TROPICAL DISEASES.

We have on several occasions during the last year published the latest available information regarding the effect and treatment of Hookworm Disease, against which a campaign is at present being waged on the West Coast by Dr. George P. Paul, of the Rockefeller Foundation, International Health Board, who has kindly sent us a copy of the Fifth Annual Report of the Board, together with some pamphlets relating to Ankylostomiasis. These we should be glad to distribute to any one interested, and feel sure more copies will be available on application. The report is a lengthy document, every line of which is of absorbing interest, and it covers not only Hookworm but Yellow Fever, Tuberculosis and Malaria Control. Of these, planters are mainly interested in Hookworm and Malaria, and it is these two that we propose to devote a few minutes' thought, with perhaps a slight digression into the question of influenza epidemics.

The striking fact regarding Hookworm is the experience of all those who have made any attempt whatsoever to control the disease, that not only does control mean a larger outturn of the labour force, but increased capacity to work on the part of that force, those who have undergone the treatment proving to be better workers than those who have not. This leads one to the overwhelming fact that once this disease gets a hold on a community few, if any, escape, and consequently the treated cases, being free from the disease, show up the non-treated cases as being slightly infected, perhaps, but certainly not free. The importance of this to the planter cannot

be over-estimated, when we realise the actual percentage involved, as we shall see later on. We published some statistics lately regarding the expansion of rubber-growing in India during the last 10 years. Similarly, we have in preparation the figures for tea and coffee, and these show how largely the country has been opened up, with a consequently increased demand for labour. The question of where that labour is to come from is one occupying the best brains of the community to-day, but few seem to have considered the possibility of increasing the actual number of daily workers, as well as increasing efficiency by the control of diseases which are sapping the strength of their labour forces in the two ways indicated, abstention from work and inefficiency.

Mental retardation is particularly apparent with Hookworm. The Rockefeller Foundation Report states that examinations among United States soldiers showed many cases where full-grown men had the mentality of a child of twelve. The mentality of 10.000 men at Camp Travis, who harbored the disease, was 33% below normal. Similar tests in Queensland, Australia, showed an average retardation of 2 years among school children, and so on. This is an appalling loss in itself, and, when we consider the percentage of loss physically, we are even more struck with the urgency of the need in Southern India for control of this disease.

We come now to the point we have been aiming at, *viz*:—How the present expansion of the planting industry in S. India may be partly, even largely, met in some cases without increase of the actual labour force. In Costa Rica, says the Report, sixty-six labourers, before being treated for Hookworm, normally cultivated 563 acres of coffee monthly. After being treated for the disease they cultivated 750 acres, an increase of over 33% in the work done, which would otherwise have necessitated a labour force of 88 where 66 proved, after treatment, to be sufficient. Clayton Lane, who is in charge of the campaign in Bengal, puts the increase in the amount of work performed at 20% on one estate and 50% on another. In British Guiana the figures are given by one company as from 25 to 50 per cent. Let us apply this to our own case. In the U. P. A. S. I. there are 1,75,000 acres, employing, perhaps, a cooly per acre. It would be too much to say that control of Hookworm would meet the need for, say, even 10% increase in the acreage this year, but there is not the slightest doubt that the control would so increase the efficiency of the present force that the new clearing would need less *new* labour than is usual, once the land was cleared and could be got at by ordinary estate labour. At present the number of coolies employed per acre tends to increase, with control of Hookworm and its effect on other diseases like Malaria and Influenza the tendency would be for the number required per acre to decrease.

In India, it is estimated that each year there are 1,130,000 deaths and more than 100,000,000 cases of illness due to Malaria, which is described as one of the most serious of the disabling diseases of man yet we do not hear of any of the large planting concerns in India making any serious attempt to control this disease. That it can be controlled, is claimed by the Rockefeller people from the results of their experiments in America. Nearer home, we have the work of Dr. Watson in the Federated Malay States, Dr. Hacker and others; work which was carried out under conditions closely akin to those on our own estates. We understand that the Surgeon-General with the Government of Madras is lecturing on this subject at the Madras Forest College, Coimbatore, during the visit of His Excellency the Governor on the 28th, 29th and 30th June, and we hope next week to be able to publish his paper. Planters would do well to attend his lecture, which will no doubt interest them, and is likely to contain

some information regarding the means of control it is proposed to adopt in this Presidency.

We have mentioned Influenza, because we have heard on good authority that it is on the increase in one district at least in S. India, and we know how this disease, if unchecked, may cause havoc amongst a labour force. The point to be remembered is that Hookworm, as a predisposing factor to this disease, has had a sinister record in Ceylon, where, during the 1918 influenza epidemic, on all the estates embraced within the Maskeliya area, with a total labouring population of 17,838, the death rate from influenza and its *sequelæ* was twice as high among persons who had not been treated for Hookworm disease as among those who had. Similarly, Major Kofoid, of the U. S. Army Medical Service, reports that the hospital statistics and sickness records of 24,000 men at Camp Bowie, during the period from October 1917 to May 1918, indicated that the resistance to disease was lowest and the mortality rates were highest among the organisations in which Hookworm disease was most prevalent.

What are planters doing in South India to combat the position, not only as it is but as it may well become? The many excellent hospitals and dispensaries one now sees on most large concerns or groups of estates are no doubt steps in the right direction, but it seems to us that these isolated attempts at alleviation are insufficient, and that what is required is some more common, more general effort at combination to fight these evils. The investigation work is being done for us, it is for planters to carry out the measures which the investigators may recommend.

TRINITY COLLEGE, DUBLIN.

Mr. J. T. Gwynn has sent the following letter to the Editors of the "Madras Mail" and "Madras Times," and has requested the Secretary of the United Planters' Association of Southern India to draw attention of any Trinity College, Dublin, men to the information contained therein:—

War Memorial—Dublin University.

Sir,—Sir Ralph Benson has written to me asking me to bring the following facts to the notice of all Trinity College, Dublin, men in this Presidency:—

A public meeting was held in the Regent House, Trinity College, Dublin, on the 4th of November, 1919, with the RIGHT HONOURABLE AND MOST REVEREND THE PROVOST in the chair. It was unanimously resolved "to promote a College War Memorial of a permanent character, whereby the names of the members of the University who fell in the Great War may be kept in honoured remembrance."

A list is being compiled showing the Graduates and Under-graduates who served and fell in the war. The list is still incomplete, but the names of 2,700 men who served have been recorded. Of these, 420 were killed in action, or died on active service. A general committee has now issued an appeal for funds for the memorial. The Committee has sent this appeal to all Trinity men whose addresses are known to it, and it wishes the appeal to reach all Trinity men. Sir Ralph Benson has sent me some spare copies of the appeal, and, if any Trinity College, Dublin, man has not received a copy, I should be very glad to send him one if he will write to me.

Yours faithfully,
(Signed) J. T. GWYNN,
Rahamath Bagh,
San Thome,
Madras.

U. P. A. S. I. ANNUAL MEETING, 1920.

The Annual Meeting will be held at Bangalore, commencing Monday the 23rd August.

Preliminary Draft Agenda.

1. The Chairman's Address.
2. Work of the Planting Member.

Ordinary Business.

3. Report of the Executive Committee.
4. Accounts, 1919-1920.
5. Election of Chairman and Auditors.

Special Business.

6. Labour Department.
7. Scientific Department.

TEA—
8. Duties on Tea.
9. Income Tax.
10. Tea Cess and Tea Cess Committee.

RUBBER—
11. Matters concerning Rubber.

COFFEE—
12. Matters concerning Coffee.

GENERAL—
13. Articles of Association and Rules of U. P. A. S. I.
14. Reform Scheme and Election of Planting Member
15. Legislation.
16. Incorporation of District Associations.
17. War Memorial.
18. Co-operative Stores.
19. Indian Defence and Auxiliary Forces.
20. Roads and Communications.
21. Harbours.
22. Railways.
23. Shipping, Freight, Tonnage and Passages.
24. Medical Aid on Estates.
25. Land Tenures.
26. Statistics.
27. Finance.
28. Exchange.
29. Budget, 1920-1921.

Affiliated Associations.

30. London Chamber of Commerce.
31. South Indian Association in London.
32. Rubber Growers' Association.

THE PLANTERS' CHRONICLE.
THE SOUTH INDIAN PLANTERS' BENEVOLENT FUND.
THE SOUTH INDIAN PLANTERS' WAR FUND.

This Draft Agenda must be regarded as nothing more than a skeleton to be filled out by Members, and, if any item fails to find some one wishing to bring forward a resolution under it, unless it refers to unfinishable business now before the Association, it is liable to be withdrawn from the Agenda as finally issued with the notice calling the meeting.

Notice.

Under No. 38 of the Articles of Association, it is necessary that notice calling the meeting shall be sent out thirty clear days before it is held, and that such notice shall state the nature of the business that will be brought forward. It is also laid down by the U.P.A.S.I. Rule VI that any member having an original proposition to propose shall give notice to the Secretary, stating objects and reasons, in time to allow him to give thirty days' notice, and that no subject shall be discussed, without such notice, except by the unanimous consent of the Meeting. Particular attention is called to this, and members proposing to bring forward any question not mentioned in Draft Agenda herewith, are asked to give the Secretary notice, not later than 12th July, in order that there may be time to have it included in the printed Agenda.

Notes on the Agenda.

Under the Articles of Association, all business except, (1) The Report of the Executive Committee, (2) Accounts and Balance Sheet, (3) The election of Chairman and Auditors for the following year, is to be considered Special Business. The Chairman will doubtless rule, as in previous years, that item No. 5 shall be taken up after all others have been disposed of.

LABOUR DEPARTMENT.—Under this item will be included report on the steps taken to increase the efficiency of the Department, and to obtain reports on new areas from which to recruit Labour, and the action taken by the Executive Committee in view of those reports.

SCIENTIFIC DEPARTMENT.—Mr. Anstead having gone on leave, Mr. Parnell is acting for him as Deputy Director of Agriculture, Planting Districts. Mr. Anstead's report, for the year 1919-1920, was published in the "Planters' Chronicle" of 12th June, and will doubtless be brought up to date, at the time of the meeting, by Mr. Parnell. Government have so far failed to find anyone for the appointments as General Mycologist and Special Rubber Mycologist. Progress made under the Pest Act, and provisions of the proposed Fertilizers' Act, may possibly come in for criticism and discussion,

TEA.—It remains to be seen whether, in view of the recent decision in the Killing Valley Test Case, the Government of India will continue with their attempt to bring Tea Companies under assessment for income tax. The matter of the proposed increase in the tea cess will probably be settled at Calcutta, next month, before our meeting is held. We have applied for a seat on the Executive Committee of the Indian Tea Cess.

RUBBER.—The matter of a Mycologist for the Mundakayam Mycologist's Station is of first importance, at present time, to Rubber Planters.

COFFEE.—No particular matter, as regards coffee, is at present before the Association.

RULES AND ARTICLES OF ASSOCIATION.—Notice has been given that a resolution will be brought forward to change the financial year, so that it should end on the 30th June instead of 31st March, as at present, in order to obviate the long interval that at present occurs between closing of the accounts and the holding of the Annual Meeting.

THE PLANTING MEMBER OF COUNCIL.—Particulars as to the change of system in the election of the Planting Member, under the Reform Scheme, were given in the "Planters' Chronicle" of the 19th June, and the Association will have to consider the nomination of a new member.

LEGISLATION.—Act XII of 1920, amending Act XIII of 1859, and the possible amendment of Act I of 1903, also the proposed Fertilizers' Act mentioned above, will require consideration.

INDIAN DEFENCE AND/OR AUXILIARY FORCE.—Members may wish to bring forward something under this head.

ROADS, HARBOURS AND RAILWAYS.—All these have occupied a considerable amount of attention of the U. P. A. S. I. during the year, and appear to have been taken up and are being pressed forward by Government.

SHIPPING.—There does not appear to have been any difficulty this season as regards space for freight, and rates have recently fallen as regards cargo, but passenger rates have greatly increased, until the cost of the voyage must, in certain cases, deter men going Home who would otherwise have done so, and, in view of the contemplated shortage next February—June in accommodation for passengers, we have been asked to consider whether Government should again exercise a control over Homeward passages.

MEDICAL AID ON ESTATES.—The matter of the eradication of "Hook Worm" has been seriously taken up by the Medical Department of the Government of Madras, and we are asked to assist as regards estate labour.

PLANTERS' CO-OPERATIVE STORES.—It will have to be decided whether we are to persevere with this scheme.

PLANTERS' WAR MEMORIAL.—The steps taken by the Executive Committee to establish Nursing Homes will come up for discussion.

THE BENEVOLENT FUND.—The much greater interest now being taken in this Fund will probably bring forward suggestions for the alteration of the rules.

THE WAR FUND.—The question of closing this fund will probably again be brought forward for decision.—

Attention is called to U. P. A. S. I. Rule No. VIII, which reads as follows :—

"In addition to its two nominated representatives, each District "Association may send three of its members to attend the General Meeting of the Association, who shall be allowed to address the Meeting, with "permission of the Chairman, but shall not vote."

(Signed) H. WADDINGTON,
Secretary.

WYNAAD PLANTERS' ASSOCIATION.

Proceedings of a General Meeting, held at the Meppadi Club, on 9th June, 1920.

PRESENT.—Messrs. E. E. Eyre, B. J. Blacket, S. H. Powell, W. G. Craig, W. Richardson, J. C. Blackham, M. W. Mackay, B. D. Darkin, and J. A. Gwynne, Honorary Secretary.

Visitor.—Bowling Esq.

Mr. Eyre in the Chair.

The proceedings of last meeting were confirmed.

New Member. Mr. N. C. Whitton was elected a Member of the Association.

INCORPORATION.—The Memorandum and Articles of Association were read and discussed. These were signed by the requisite number of members.

ROADS.—It was resolved that the Secretary should write to the President of the District Board and call his attention to the very bad state of the outlet road from Manantoddy to Tellicherry, and point out that no work has been done from the Wynaad boundary.

PLANTERS' WAR MEMORIAL.—It was recorded that the Association had voted in favour of the proposal to subscribe Rs. 50,000 of the Planters' War Fund to the general scheme of Nursing Homes in the Presidency of Madras.

COOLY CHATTRAMS.—The Puduppadi Chattram was reported to be still in a very bad state of repair, and the Secretary was instructed to again bring the matter to the notice of the Members of the District Board. The need of a Chattram between the 12th and 14th mile is very badly felt, as labour coming to the District, especially during the monsoon, has no place in which to shelter. It was therefore resolved to ask the Deputy Collector to bring this matter up at the next Meeting of the District Board.

INTER DISTRICT LABOUR RULES.—The rules issued by the U. P. A. S. I. were read, and unanimously agreed to.

S. I. P. B. FUND.—It was agreed that a subscription list be circulated.

TEA CESS.—The proposed increase was considered, and the Meeting was of opinion that this was purely a matter for Proprietors and Agents.

A vote of thanks to the Chair terminated the proceedings.

(Signed) E. E. EYRE,
Chairman.

(,,) J. A. GWYNNE,
Hon. Secretary.

NITROGEN FROM THE AIR.

The final report of the Nitrogen Products Committee has recently been issued. It is reviewed in the *Chamber of Commerce Journal*, February 13, 1920, from which the following is quoted :—

This Committee was appointed in June 1916, to consider the question of establishing in Great Britain, and other parts of the Empire, some of the newer processes for fixing atmospheric nitrogen, in order to provide supplies of the nitrogen compounds essential for munitions and agriculture alike. The report is a voluminous one, and space does not permit of more than a brief survey of the Committee's recommendations. It is shown that the present demands for nitrogen for agriculture in the United Kingdom are already more than double the pre-war demand, and that, in future, the requirements will be still greater. In order, therefore, to meet this future demand, the Committee recommend the establishment forthwith of the synthetic ammonia (Haber) process on a commercial unit scale, and its expansion as rapidly as possible to a minimum of 10,000 tons of ammonia per annum. The Billingham-on-Tees factory is suggested for the purpose, if such a course is practicable. The cost would undoubtedly be great, but the Committee consider that, from the military aspect, we ought to manufacture a sufficiency of nitrates in this country to render us independent of the saltpetre imported from Chile for the nitrogen compounds for high explosives. The Committee also recommend the establishment without delay of the calcium cyanamide process, either by private enterprise (State supported if necessary) or, as a public work, and sufficient to give an output of about 60,000 tons of cyanamide per annum. It is also recommended that the ammonia oxidation process should be established, on a scale sufficient to produce about 10,000 tons of strong nitric acid per annum, or its equivalent in nitrates. Other recommendations comprise the trial, on a working scale, of various promising processes for the fixation or recovery of nitrogen; the continuation under the auspices of the Government, for the general benefit of the country, of the researches on the nitrogen problem initiated during the war; the framing of a co-ordinated policy for safeguarding the future nitrogen requirements of the Empire, the suggestion being that advisory bodies should be set up in various parts of the Empire to furnish the Imperial authority with the necessary data; and the official collection and publication of comprehensive statistics for the nitrogen industries of the United Kingdom, and for the home consumption of coal by various classes of users and industries.—*The Agricultural News.*

WEED CONTROL AND FERTILIZATION.

Where cane fields have been cultivated and weeds eradicated from them for many years, as in Barbados, the benefits of applying fertilizers are well known. In some of the other islands, where from lack of labour such complete cultivation has not been possible, the application of artificial manures has not always seemed to be advisable. In *Facts about Sugar*, January 24, 1920, an interesting account of an experiment in Hawaii with regard to weed control and fertilization is recorded. As this question is of general interest to cane planters, most of the article is reproduced below :—

This was a test to determine the effect of weed growth on the growth of cane, and to determine the value of fertilizing in the presence and in the

absence of weeds. The experiment was planned by L. D. Larsen and R. S. Thurston, and carried out by the latter. The experimental cane was D-1135 plant, on a non-irrigated field. The plan of the experiment was as follows:—

Plots.	No.	Treatment.
D	12	Weeds allowed to grow ; fertilizer.
E	12	No weeds ; fertilizer.
F	8	Weeds allowed to grow ; no fertilizer.
G	8	No weeds; no fertilizer.

In the D and F plots weeding was done approximately as in the surrounding field, and at times the weeds were very bad. The E and G plots were kept free from weeds, either by cultivation, hoeing, or spraying.

The cane in this field, for some reason, died back to a large extent ; on this account the juices were very poor. The cane was sampled in carload lots at the mill, and the juices composited for each treatment. It took about 15 tons of cane per ton of sugar. The results of the harvest were as follows :—

Plots.	Cane.	Q-R.	Sugar.
D ...	21·31	15·46	1·38
E ...	29·37	15·69	1·87
F ...	13·19	14·89	0·89
G ...	20·38	13·28	1·53

These results are very striking, in that they show that the weeds, in this case, completely overcame the beneficial effects of the fertilizer ; that is, the plots having no weeds and no fertilizer produced slightly more sugar than did the plots receiving fertilizer without perfect weed control.

Weed control produced as great gains as did fertilizing, if not greater.

The D and E plots received the same amount of fertilizer ; in addition to this, the E plots had perfect weed control and produced 8 tons of cane more than the D plots.

Comparing the D and F plots, where weeds were allowed, we find a gain of 8 tons of cane, due to fertilizing, in D. In this case either weed control or fertilizing produced a gain of 8 tons.

Further study shows that these gains are accumulative, weed control and fertilizer (E plots) produced 16 tons of cane more than no weed control and no fertilizer (F plots).

These results are very important, as showing that full advantage cannot be taken of heavy fertilizing unless weed control is carried out also. They also seem to indicate that, in times of acute labour shortage, the loss can be partly made up by fertilizing more, unless fertilization is already high. —*The Agricultural News.*

THE CARE AND MANAGEMENT OF MANURE IN SOUTH INDIA

By Mr. C. Benson, Deputy Director of Agriculture.

*(Reprinted by the Publicity Bureau.)**

In some places where wood fuel is scarce and near large towns, a very large proportion of the cattle dung is made into cakes and used for fuel, only a little ashes remaining for use as manure. When his cattle dung is burnt by the ryot himself, the ashes are generally thrown into a heap in the open, where they become leached of much of their valuable matters. That the practice of burning cattle dung is a cause of great loss is known to every one. By using the dung of his cattle for fuel, the ryot makes only a very petty saving in expenditure, whilst he could, by growing fences round his fields, as is done in parts of Coimbatore and Salem, or by setting apart a small portion of his fields on which to grow trees for fuel, easily provide himself with fuel sufficient for his wants. By such means the very wasteful practice of burning cattle dung may be avoided. Near large towns, the price of fuel is so high as to render the growth of fuel trees generally a profitable undertaking.

The more general practice of the ryot is, however, to accumulate the dung of his cattle in a loose heap in the open air. The dung there dries into hard lumps, and is thoroughly washed by any rain that falls. It suffers loss in every possible way, and the ultimate result is a small heap of very poor, almost valueless stuff left to be carted to the fields. With the dung is to be seen a certain amount of straw and leaves. Each material is left to itself, the dung to lose its value, the stalks to become hard and desiccated. Because in India no litter is supplied to the cattle, not once in a thousand times is any attempt made to save the urine of the cattle when they are kept in the houses or sheds of their owners. Wasteful this process is, because the solid manure is exposed as described. Still more wasteful and injurious is it, because the liquid manure is not only not preserved, but is allowed to sink into the ground, and especially into the hollows made by the feet of the cattle. The soil on which the cattle stand is saturated below by the urine, and the air of the house or shed becomes foul and contaminated. Every one has noticed the strong and peculiar odour found in these sheds in the morning. This is due mainly to the evaporation of valuable matters contained in the urine, which drops on the floor and is lost.

The value of the urine of his cattle as manure is not, it is to be feared, appreciated fully by the ryot, even if the value thereof is not totally unknown. The urine, as a matter of fact, is richer in fertilizing matters than the solid excreta of cattle, and the loss involved in letting the urine go to waste is very large. This loss may be avoided by the use of litter to absorb the urine, or even by sprinkling the floors of the cattle-sheds with dry earth, if litter be unprocurable. By the latter process, much of the urine could be saved; the earth being allowed to accumulate in the sheds till required for use as manure, or being removed as soon as it becomes saturated and carefully preserved in a manure pit as is described below. In cases where cattle are tethered or penned in the fields, the urine, soaking into the land, is not lost.

If the ryot be asked why he does not use litter for his stock, he usually says that he has not enough fodder to feed them properly, still less has he straw for use as litter. The appearance of so much waste straw, etc., in the manure heaps is, however, often evidence that this is not the reason, for these matters, as well as coarse grass, weeds, leaves, and rubbish of all sorts might be used as litter, and the quantity required, especially if dry earth be also sprinkled over the floors, is not large.

As has already been said, the most valuable portion of farm-manure consists of the urine of the cattle. The manure comprises also, when properly made, the whole of the solid dung as well as the litter used for bedding the cattle. As it consists of litter and the voidings of animals fed on the produce of the soil, it forms in itself a complete fertilizer. In the making of good manure, it is of importance that all these matters should be thoroughly and intimately mixed and that they should be preserved carefully after they have been collected; so that the whole mass may ferment and decompose slowly and thoroughly. The value of farm-manure lies probably as much in the mechanical effect it has on the soil to which it is applied as on the fertilizing matters it contains. The mechanical effect depends greatly, if not chiefly, on the state of decomposition in which the manure is when applied to the land.

An excellent method of managing farm-manure, suited to the conditions of the ryot, is described below. In this method, the dung and the urine are not removed from the shed except at intervals of several months, when the manure is required. The litter used absorbs the urine.

The floor of the cattle-shed should be made 2 or 3 feet lower than the surrounding ground, and the sides and the bottom of the pit plastered with clay. On the floor, a layer of ashes should then be spread once for all, and every day a layer of vegetable rubbish should be spread over the surface as litter, that is, for bedding. For this purpose, leaves, coarse grass and other vegetable rubbish may be collected and stored during those parts of the year when they can be easily procured and when the ryot and his cattle have plenty of leisure. Waste fodder and various refuse portions of crops, such as the ear-heads from which corn has been thrashed, etc., may be used as bedding. The shed may be 10 feet long and 6 feet broad, for a pair of cattle. It is best that the cattle should be left loose in the shed, so that they may tread on every part of the manure and press it down. If the manure is not pressed, it will rot too fast and become much heated and give off bad smells, and the health of the cattle will be injured. Every morning the dung dropped by the cattle in the previous night should be evenly distributed, and a thin layer of litter spread over it. In this manner the manure may be collected until the pit is filled, which may take about three months.

Too much bedding should not be supplied; otherwise the manure will be too dry and not decompose with sufficient slowness, and thus lose in value. The manure in the pit should always be thoroughly moist throughout its bulk. If the manure has an ash-coloured appearance anywhere when it is being removed, that is a sign that it has not decayed properly; this appearance being due to the great heat caused by the manure being too dry. If the straw, etc., supplied as bedding be long and hard, the manure will not rot properly; such litter should be cut up into short pieces. Unless the manure is well-rotted, it will not be of much use to crops, as it will not act quickly. It will also make the soil too open, so that the crops thereon may suffer much from draught. The manure, if properly managed, will be of a black colour and of mellow substance, thoroughly rotted throughout, so that it may almost be cut with a knife. In removing manure from the pit, the unrotted portion near the surface should be placed on one side, and, after the well-rotted portion has been taken out, should be put back again at the bottom of the pit, and manure may be collected again as before.

By this method of managing manure, about 5 to 7 tons of good manure may be obtained yearly for each head of cattle kept, whereas, if the dung be thrown out in loose heaps in the open air, only about half a ton of very inferior manure will be obtained in the year. The only objections raised to the system are—

(1) That it is supposed to cause unhealthiness amongst the cattle housed.

(2) That it requires a large amount of litter to be supplied.

In reference to the last, it may be noted that, in some parts of South Kanara, the ryots take great pains to collect leaves and grass, and supply bedding to their cattle; but they remove the manure at intervals of a few days, and throw it out in a hollow place where it can be compressed by the carts travelling to and fro over it. In reference to the first objection, experience has shown that it is groundless.

If, for any reason, it is inconvenient to a ryot to collect manure in the above-mentioned manner, following method may be adopted :—

The floor of the cattle-shed should be made smooth and compact with a gentle slope towards the back, where a small channel should be placed, so that all the urine falling on the floor may be carried by the channel to a pot placed outside the shed at one end. The dung can be removed every day and thrown into a pit, the sides and bottom of which should be plastered with clay, and over which a low thatched roof has been erected. Whatever vegetable refuse is available on the farm may be thrown into the pit. and the urine collected poured over the heap daily. The whole mass of dung, urine and vegetable rubbish should be kept uniformly mixed and well trodden and pressed down, so as to make the mass decay uniformly and slowly.

If the manure pit last described cannot be protected by a simple shed, the heap should be covered with earth. It has in all cases been found very useful to cover manure heaps with earth, as this prevents the loss of valuable fertilizing matters into the air. This practice is fully adopted in some places, e.g., in Tinnevelly, with the best results. If the upper portions of a manure heap become dry, the heap should be turned over so as to mix the moister and the drier portions together, and, if there be any tendency for the heap to dry up generally, it may be watered slightly with advantage. The covering of the heaps with earth to a great extent prevents undue drying. The great aim should be to maintain the heap in a moist state, so that the whole mass may decay slowly and completely, and thus the fertilizing matters of the manure may be preserved and rendered more immediately useful than as they are found naturally.

[NOTE.—It is recommended that cattle-sheds should, in all cases, be placed outside the villages, and, if possible, in the ryots' fields, and that they should be sufficiently ventilated to admit of the free circulation of air.

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* Further copies of this pamphlet may be obtained on application to the Publicity Bureau, Victoria Buildings, Egmore, Madras.

REDUCING LABOUR REQUIREMENTS.

(*The Malayan Tin and Rubber Journal.*)

The shortage of supply of labourers for rubber estates, which is now being experienced in most parts of Malaya, makes it imperative to estate managements that they put on their considering caps as to how it might be possible to reduce their labour requirements and still give the same, or practically the same returns. Another factor which still further impresses the importance of this matter is the information from the F. M. S. Government that rice is to be dearer.

This means that either estate managements must be prepared to sustain a further loss on rice by allowing their coolies the old rates per gantang or they must be willing to increase the wages of their labourers. In the first case the additional loss—a rise from $1·09 to $1·38 per gantang—will be 29 cents per gantang, a total of $1·16 per male cooly per month, or nearly four cents a day, and making a grand loss on rice per month per cooly, where the estate supplies him that commodity at 45 cents per gantang, $3·72, or over 12 cents per day.

Such questions as the one above, and after all it is only one of the many which are confronting employers of native labourers, make it extremely desirable to find some means by which the number of coolies required will be reduced. The introduction of power machinery to take the place of hand labour certainly is a help in this direction. A steam or motor plough can run over land at a quicker rate and a cheaper figure, with the employment of less coolies, than would be required if changkols only were used. Machinery worked by motor or steam power in a factory reduces the number of coolies which would be otherwise required were the machines turned by hand.

The latter idea has already been put into vogue on most estates, and only a few of the small estates, or estates producing very small crops, are still content to use hand mangles for preparing their sheet. The use of motor or steam ploughs is coming more and more into vogue in the preparation of the land for rubber planting or the cultivation of the soil after the trees have been planted.

Nevertheless the usage of the above ideas more generally on rubber estates would not liberate many coolies in Malaya for other tasks as the estates which are carrying on opening up work are comparatively few in number as are also the estates which are carrying out any large scheme of cultivatiou. We should, however, give the matter of the employment of machinery driven by motor or steam power, a fair consideration from a labour-saving standpoint. Is it not possible, perhaps, to find some matter in which a far greater saving of lobour, and the consequent freeing of that extra labour for other work, could be made? There are many things on estates which can only be done by hand, but are there not several ways of doing the same job? And, may not one method be as advantageous as another, from a dividend-producing aspect, and yet not require so many coolies to do the job? There is no doubt that, of the multitudinous operations which are being carried out on rubber estates, the actual tapping of the trees demand the biggest proportion of the labour force. This demand for labour for the work of tapping is one to which no management can close its ears for the returns of the estate are absolutely pivotted on its output of rubber. Most managements have, in the past, been only too willing to sacrifice any other work on their estates, no matter how important, in order to have sufficient, or at least, as many coolies as possible, for tapping the trees.

Up to the present no means have been found of obtaining the latex from the rubber tree except by tapping with hand labour. No one has even suggested another method. It would, therefore, seem to us that, if it were found possible in Malaya to find a method of tapping by which one could substantially reduce the number of coolies required for that work, and get practically the same yield per acre, then, not only would one produce the rubber at a cheaper figure, but the surplus of coolies which would then be freed, would go a long way in satisfying the present demand by estates for labourers for other works.

As a means to this end, we would earnestly suggest alternate day tapping to the careful consideration of estate managements. We know that a lot has already been written and said amongst planters and others interested in rubber production about the question of "daily versus alternate day tapping." Some advocates of the alternate day tapping system have brought it forward and extolled its virtues on account of its supposed disease-preventing attributes From this standpoint, however, we do not care to offer much opinion, for the very reason that nothing very definite is known about it, and even scientists themselves are not in agreement on the subject.

From a labour-saving standpoint, however, much can be said in favour of alternate day tapping. On most estates in tapping the number of coolies employed for this are, least, 75% of the total labour force. It is obvious that by tapping alternate days instead of every day, the necessary tapping labour force would be halved, or very nearly so. This would mean that an introduction of the alternate day tapping system into estates where daily tapping is now in vogue would liberate three-eighths of their present total labour force, either for other necessary work on those estates, or for employment on other estates. A unanimous change, therefore, of all estates from the usual daily tapping system would render free a huge source of available labour, quite sufficient, we suggest, to satisfy the present demand.

"But," says the estate manager, "if I tap alternate days, my crop is reduced." We quite agree that, if an estate taps on the system, "one cut on a quarter" every day, and changes to a similar style of tapping on alternate days, than a reduction—and a serious reduction—of crop will be experienced. We are informed by scientists that, when the alternate day system has been "well worked in" after making the change from daily tapping, the crop given by alternate day tapping on the "one quarter cut system" will give about 60% of the crop obtained when such a system is used daily. All will agree that a 40% reduction in output is a weighty matter, and one, we are sure, which would not be welcomed by directors or shareholders at Home. We feel that most Boards of Directors would not consider that any such advantages as freedom from disease, reduced labour force required, with less recruiting costs, accommodation charge and hospital costs, would be at all a compensation for such a reduction in profits.

There are several advantages which arise from such an alternate day system of tapping. We have enumerated some of them above, and we could add others. The question, however, arises at once in our minds: "Is it not possible to tap on alternate days, and so reduce the labour force necessary for tapping, and yet not suffer the heavy reduction in output."

As a solution to this problem we would suggest the simple practice of doubling the length of the tapping cut, *i.e.*, tap on a half spiral system, or on a basal "V," and then tap on alternate days. It would appear that the returns from such systems of tapping are quite satisfactory, nearly, if not quite equalling those from the "one cut on a quarter tapped daily" system. The amount removed in the daily tapping of a quarter cut and the length of time allowed for renewal, would be about the same in both cases. It might perhaps be necessary to slightly reduce the tasks in making such a change, especially where the trees are very big. In support of this alternate day system of tapping, Ceylon comes well to the fore. From these returns of 400—500 lbs. per acre on comparatively poor soil (poor as compared much of Malayan soil) are a common experience from a half spiral cut tapped on alternate days.

Of course we can foresee one difficulty which would arise in introducing such a system of tapping into Malaya. This difficulty would be in connection with the old over-tapped trees on older estates where it is even now often difficult to find a quarter of the bark fit for tapping, and where it would be nearly impossible to find two adjacent quarters on which one long cut could be made. Still, this difficulty would not occur on many of the younger estates, and the alternate day system could be easily brought in on them. Further, all new areas being brought into tapping could be tapped on this system, thus requiring half the number of labourers which would be otherwise needed.

We offer the above suggestion for what it is worth, and we think that the matter is well worthy of serious consideration at the present time when the labour shortage is being felt so seriously, and when there seems but little prospects of the situation improving.

RUBBER TRADE ASSOCIATION OF LONDON.

Monthly Statistics.

MAY, 1920.

Movements of all kinds of Rubber to and from the United Kingdom as per BOARD OF TRADE RETURNS.

IMPORTS.

From	April.			4 Months ended April.		
	1920	1919	1913	1920	1919	1913
Straits Settlements and F. M. S. ...	5,453	9,268	2,350	19,580	19,971	8,065
Ceylon and British India ...	1.889	2.526	559	9,502	9,082	2,417
Dutch East Indies, &c. ...	1,156	1,579	136	3,343	2,972	406
Brazil and Peru ...	619	1.660	2,221	2 611	4,484	8,265
Other Countries ...	368	186	1,822	993	997	6,453
Total Tons ...	9,485	15.219	7,088	36,029	37,506	25,606

EXPORTS.

To	April.			4 Months ended April.		
	1920.	1919.	1913.	1920.	1919.	1913.
United States of America ...	3,427	919	1,431	17,934	6,568	5,189
Canada ...	319	22	49	1,551	67	138
France ...	1,403	1.066	464	5,229	4,702	1,551
Belgium ...	446	519	208	1,233	601	669
Italy ...	591	336	8	1,444	2,011	65
Spain ...	44	20	1	66	96	25
Germany, Austria, Hungary ...	533	...	738	1,173	...	3,659
Russia ...	...	...	627	19	...	2,388
Sweden, Norway and Denmark...	89	236	26	300	532	212
Other Countries in Europe ...	26	...	137	155	5	454
Other Extra European Countries.	90	71	72	320	184	232
Total Tons ...	6,968	3,189	3,761	29,424	14,766	14,582

LANDINGS, DELIVERIES and STOCKS in London and Liverpool as returned by the Warehouses and Wharves during the month of April.

		Landed for Apr.	Delivered for Apr.	Stocks 30th April. 1920.	1919.	1918.
LONDON ...	Plantation ..	8 087	6,969	21.332	18,371	16,556
	Other Grades ...	36	61	540	504	362
LIVERPOOL...	Plantation ...	249†	332†	1,301†	3,541†	2,535†
	Para & Peruvian	526	568	774	1,080	694
	Other Grades ...	80	10	447	499	643
Totals London & Liverpool ...		8,978	7,930	24,394	23,995	20,790

† Official Returns from the five recognised Public Warehouses.

Movements of all kinds of Rubber, excluding Gutta, Balata and Guayule, to and from the U. S. A., AS PER RETURNS OF THE UNITED STATES DEPARTMENT OF COMMERCE.

	February.			2 Months ended February.		
	1920.	1919.	1918.	1920.	1919.	1918.
IMPORTS ...	31,855	14,958	13,177	61,510	25,243	24,470
EXPORTS ...	65	135	184	317	220	753

RECEIPTS AT PARA.

	April.			July/April (10 Months).		
	1920	1919	1918	1919/20	1918/19	1917/18
Rubber ...	2,230	2,340	1,430	23,780	21,753	22,814
Caucho ...	1,190	1,110	900	5,720	5,142	7,466
Total ..	3,420	3,450	2,330	29,500	26,895	30,360

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

Indian Tea Imports into India.

Sir,—The figures which you publish from time to time, showing the quantity of Ceylon tea spent over for consumption in this country are given, one supposes, with the object of drawing attention to the matter, as it affects the S. I. Planter.

Ceylon, now-a-days, probably realises more than before to what an extent the Island has depended upon South India, and in how many ways; and perhaps is only waiting the action of the U. P. A. S. I. in this matter, as she did regarding the removal of the restrictions necessarily placed upon S. Indian teas for sale *ex* Bond on the Colombo market during freight shortage in war time, and, if approached, would readily accede to the justice of handing over to the Indian Tea Cess Committee the amount of the export cess gathered from teas sent to India, in addition to any contributions towards propaganda work which she may already make.

Perhaps we should ask tea men there to tax themselves for the good of the Industry, and the present would be a very good time to ask them to assist in increasing the consumption in a market of which they have already taken great advantage, or to further increase their assistance, if they already contribute towards the campaign.

Yours, etc.,

PELICAN.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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MALARIAL PRECAUTIONS.

In pursuance of our promise last week, we deal to-day with the lecture which the Surgeon-General with the Government of Madras gave on Monday last at the Madras Forest College, Coimbatore, in the presence of His Excellency Lord Willingdon, Governor of Madras, and a large gathering of Forest Officers, students and others. We regret that no copy of the lecture is available, and that we must, therefore, rely upon our fragmentary notes which, we hope and trust, if they do not cover completely all the points dealt with by Surgeon-General Giffard, at least convey some idea of the gist of his remarks.

First of all, we were asked by the lecturer to take his word for it that the so-called theory of the transmission of malaria by the anopheline mosquito could no longer be claimed as such, and certainly his subsequent remarks were sufficiently convincing even to the most sceptical that the influence of the mosquito, in the incidence of malaria, is an undoubted fact, and no longer a theory. This being so, it becomes a question in the lecturer's view of asking the housewife why the mosquito is not regarded in the same way as vermin, such as fleas, bugs, etc., are regarded, *i.e.*, as something unclean. For a visitor to one's Bungalow to find fleas in his bed would mean eternal shame for his hostess who, however, has only commiseration for his sufferings from the pestilent Anopheles and yet, with the exception of the Rat

Flea, comparing the two, the mosquito is a direct danger to health while the flea is a harmless disturber of rest.

That the mosquito known as Anopheline is the carrier, the secondary host of malaria, is no new fact. It was in 1880 that a French Doctor discovered the parasite of malaria, and as much as 25 years or more ago that Ross started his experiments, which culminated in the certain knowledge we now possess of its life cycle. That the lecturer should have found it necessary to preface his remarks with such elementary facts is, therefore, rather surprising, but, as he showed us, none the less necessary; and thus, finally, he comes to the conclusion that it is by the removal of sentiment and ignorance that we shall eventually arrive at something approaching immunity. Once the facts are sufficiently widely known by education of the individual, there is no reason why malaria in this country, if not entirely stamped out, should not be at least kept under, with a resultant tremendous effect in the saving of valuable lives and the consequent economic value to the country of an anti-malarial campaign.

We must remember that Surgeon-General Giffard was addressing particularly an audience of Forest Officers. The Forest Officer's work takes him into what are regarded, or at least have the reputation of being, malarious places. The forests of the Madras Presidency are incidentally the Mecca of the Planter, and for that reason his advice to the Forest Officer applies with equal force to the Planting Community. From what we were told, it seems that both Forest Officers and Planters, in vulgar parlance, get malaria simply because "they are asking for it." They seem deliberately to place their camps or Bungalows in situations which are ideal for the propagation of the disease, and having thus themselves prepared the ground, they themselves carry the infection to the spot, they bring to the chosen arena infected servants, they neglect the most ordinary precautions against the bite of the mosquito, and, in fact, having themselves introduced the disease, they come away from the place and at once brand it as "malarious." This is no doubt perfectly true. What we have to remember is that it is not the bite of the mosquito *per se* which is dangerous, but the parasite which is injected into the human blood with each bite. Even the Anopheles then, if not previously infected, are quite harmless, and considering that only the female carries the parasite and that the parasite dies with her when, in the act of laying her eggs, she also expires, it is an undoubted fact that a so-called malarious place cannot remain so indefinitely. A question was asked relating to the average life of the Anopheline mosquito: this is not known definitely, but it is known that the life of the insect is short. It follows, therefore, that with the passing of one generation, a new generation arises which is free from the parasite, and unless that generation inoculates itself so to speak with the parasite by sucking the blood of a person infected with malaria, the "malarious jungles" idea becomes what it so often actually is, a myth. The lecturer then accuses us of courting disaster by, first, not assuring ourselves by a blood test that we and our servants are free from the parasite, secondly by placing our camps or Bungalows within flying distance of villages infected with malaria, and lastly by carelessness in the matter of sleeping nets, which are often torn, permitting the ingress of the Anopheles, or by sitting about at night time in shorts or pyjamas when in camp or on our Bungalow verandahs within easy reach of some mosquito breeding pool of water. It will be seen from this that the Surgeon-General favours precaution which deals with the mosquito, the anti-malaria campaign becomes an anti-mosquito campaign, and we are not told how to destroy the mosquito but how to avoid him or

rather her. This is an important point, because hitherto Planters have been prone to believe in certain measures which the lecturer told us were by way of being popular fallacies. There is for instance the kerosene oil cure, which consists of sprinkling, spraying, or covering with a film of oil all exposed water surfaces. There is no doubt that kerosene oil will effectually dispose of any larvæ or pupæ in the water with which it may come in contact, but there is so much that an ordinary application of oil does not come in contact with that it is not so efficacious as is generally believed. Wind, for instance, will push the oil before it, leaving areas of water surface uncovered. Again there is the question of taint, smell or taste, and in the event of large areas needing treatment, obviously kerosene oil is a doubtful and at the same time expensive remedy. The next great fallacy dealt with by the lecturer is that which he called the quinine prophylactic theory. Planters especially, seem to think that by taking quinine regularly every morning they render themselves immune from malaria. We know that quinine is a specific in malaria, but the manner in which it is taken has everything to do with its effect on the parasite. To realise the futility of promiscuous quinine drugging, and in fact its actual harm, we have but to consider a fact in the life cycle of the parasite. It is that when the parasite has grown from its initial "ring" stage, through a process of ordinary expansion, to that of a mass of infection in the blood corpuscles, followed by a bursting into millions of separate entities each capable of performing again the cycle, they remain quiescent in the blood for a period varying from 14 to 21 days, during which time quinine has no effect on them, and, in due course they become again active, producing a "go" of fever. That is the time when they become susceptible to quinine, and the Surgeon-General advocates at this period doses of 15 grains of the Bisulphate, say three times daily for 3 or 4 days, to scotch entirely the cause of the disease. Again, we know that the Anopheles is active mainly, almost invariably, between sunset and sunrise. Add to this the well-known fact that quinine is a medicine which has an almost immediate effect but which passes very quickly out of the body, and we see how the daily morning dose of quinine cannot possibly have the slightest effect on the nightly dose of malaria parasite. Here, too, is the important point that quinine is a poison. It is poisoning the parasite it is true, and simultaneously is wielding an evil influence on the body it is meant to cure. It is well, therefore, that this should be more widely known. A little knowledge is a dangerous thing, and the promiscuous drugging with quinine which goes on daily in many planters' households must be labelled dangerous.

At the end of the lecture we were treated to some interesting slides, showing various stages in the life of the parasite and in the life of its carrier, the Anopheline Mosquito. Some of the methods by which the Panama Canal Zone was cleared of malaria were also shown to us. To the planter, we recommend a careful study of this question. To blot out malaria from an Estate is admittedly a costly matter. Some will say it is not possible, but we agree with the Surgeon-General when he says we have left behind the realm of theory and have entered that of hard fact. It has been done, and can be done again. We are told even that it is an easy matter, and what, after all, would be the ratio between cost and return in the way of, a more efficient labour force, a force in fact of full strength instead of, as one sees daily, diminished in numbers by constant "fever" cases in the lines. If you cannot now go in for prevention on a large scale, make a start right-away with one of your lines. Fill up small pools, do not allow standing

water, even clean water (the Anopheles prefer it), attend to drainage, keep your wells free from weeds, your tanks free from vegetation round the edges, do not allow old tins, broken pots, etc., to remain around. A few drops of water in them will breed hundreds of potential carriers.

His Excellency, in thanking the Surgeon-General for his most interesting lecture, seemed much impressed with the fact that no consideration appeared to have been given when building forest Bungalows to the possibilities of the site as a mosquito-breeding-ground. He suggested that, if the Chief Conservator were to put up a scheme for the control of malaria on the lines laid down by the Surgeon-General, it would receive the sympathetic consideration of Government.

Altogether we spent an instructive and enjoyable evening, and came away fortified in the knowledge that, however we may have suffered in the past, the outlook for the next generation, if only they will attend to and absorb the wisdom of the experts in this matter, is indeed bright, and far removed from the terrors of our initial journey to that "feverish place," India.

THE PLANTERS' LIBRARY.

Imaginary Reviews.

We have received a copy of what would appear to be a valuable book, in the shape of a Tamil-Scotch Manual.* Scotchmen have up to now been compelled to rely on books translating the vernacular into English (and *vice versa*), which has of course necessitated its re-translation into Scotch.

Now that classes for planters are being held by the North of Scotland College of Agriculture, at Marischal College, Aberdeen, we may expect an even larger influx of emigrant immigrants "frae the Land o' Burns," and we feel sure that this well-timed publication will admirably fill a long felt want.

We select below a few phrases from its pages which will doubtless convince our readers of its excellence and terseness.

It is published at a price which should appeal to all Scotchmen.

Terium-ah ?	Dae ye ken ?
Teriathi	A' dinna ken.
Eepoh Terium	A' ken the noo.
Amar.	Aye.
Illay	Nae.
Nulla kahren.	Brau Lad.
Nulla Pumbulai	Sonsie Lassie.
Sinna Pullai.	Wee bit bairn.
Po.	Gang.
Enga Poratha ?	Wha' air ye aff tae ?
Eepoh nahn Koilke pohren.	A'm aff tae the Kirk the noo.
Udday Uppar !	Hoots Moh!
Carium illay.	A'm no fashin masel.'
Mudian.	Feckless loon.
Innecky.	The day.
Narlecky.	The morrn.
Nerhtu.	Yestreen.
Kuiseny puckum.	Ben the hoose.
Shorn.	Parritch.

* "Yen ?"—Tamil-Scotch Hand Book, compiled by J. G. Heart, Esq. (Publishers—Messrs. McGraw, McTavish & Co., Tongue, Scotland. Price, Saxpence.)

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, 8th June, 1920.

PROCEEDINGS.—The proceedings of the meeting, held on the 25th March had not been seen by all members, and were to be continued in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION, LONDON.—Letters, dated 6th and 13th May, from the London Association, came up for consideration. They dealt with the following subjects :—

(*a*). *Diversion of steamers from London to outports in the United Kingdom.*—It was stated in the proceedings of the last meeting in this connection that, while the Anchor Brocklebank and City Lines had agreed to a settlement on the basis of re-imbursement to shippers at the rate of 62*s.* 6*d.* per freight ton, no information had, up to that time, been received from the Clan Line whether they were prepared to accept these terms.

Under cover of their letter, dated 6th May, the London Committee now forwarded copies of correspondence that had passed between the Line and the Association in this connection. After protracted discussion with Messrs. Cayzer Irvine & Co., Ld. (Clan Line Steamers, Ld.) the London Committee advised shippers to accept delivery of the tea cargoes *ex* Clan Line steamers at the ports of diversion, on payment of the bill of lading freight, less 41*s.* 9*d.* per freight ton. It was not anticipated that the other two lines would object to the favourable terms given to the Clan Line, as they had all along recognised that the position of this Line in the matter was very much worse than their own. Another of the terms of settlement with the Clan Line was that the Line and the tea interests should take joint action (if it were advised that such joint action were competent) against the Shipping Controller, for the recovery of the losses involved by his diversion of the steamers. In the event of the action being competent and proving successful, any amount recovered up to the allowance of 62*s.* 6*d.* per freight ton would be handed over to the shippers.

(*b*) *Annual remittance towards London Office expenses.*—In accordance with the request contained in their letter, dated 13th May, the Committee directed that a draft for £800 should be forwarded to London as a contribution towards office expenses. This amount was similar to that sent last year.

FOOD CONTROLLER: EXTRA COST OF PRODUCTION IN 1918.—This subject was last mentioned in the proceedings of the meeting, held on the 11th May. It was there intimated that, in reply to a telegram from the Committee, dated 27th April, asking what progress had been made in the settlement of this claim, the London Committee cabled back that the question had been referred for the present to the Indian Tea Commissioner. The Secretary was therefore directed to cable London again on the subject, pressing for an early settlement, by arbitration, if necessary.

HOMEWARD PASSAGES.—In the proceedings of the meeting, held on the 25th May, there was printed the text of a letter, dated 19th May, from the Secretary, Bengal Chamber of Commerce, to the Secretary to the Government of India, Department of Commerce, urging the adoption by Govern-

ment of certain proposals which were originally put before the Chamber by this Committee with a view to easing the situation in regard to homeward passages. The Chamber, in the above letter, requested Government to restrict the number of tourists to India next cold weather by control of passports.

The Secretary of the Chamber now forwarded, under cover of a letter, dated 2nd June, copy of a communication dated 28th May from the Calcutta Liners Conference to the Chamber. The Lines had discussed the proposals and had submitted them to the owners for consideration. The Government of India were also in communication, unofficially, with the passenger lines with reference to the suggestion that restrictions should be introduced to minimise the number of tourists visiting India next winter.

The Committee noted the terms of this letter with satisfaction. They were inclined to think, however, that unless registers were kept and published by the passenger lines, complaints and dissatisfaction would continue. It was also agreed that the introduction of a system whereby prospective passengers would be compelled to make a deposit on booking would obviate duplicate and triplicate registrations, which were undoubtedly the source of much confusion.

The pressing need for immediate action to relieve the situation was demonstrated in a letter, dated 1st June, from Messrs. Jardine Skinner & Co. A planter in their agency, who had not been home since 1904, had been informed by the City Line agents, on applying for passage in 1921 on behalf of his wife and family, that owing to the large number of intending passengers already registered in their books, they were unable to register any more names until further notice. The Committee, while sympathising with the hardships of such cases, regretted they were unable to do anything to help, apart from the representations already made to the Committee of the Chamber of Commerce. These letters were now to be recorded.

OCEAN FREIGHT AGREEMENT: TEA RATE FOR JUNE.—A letter, dated 4th June, had been received from the Bengal Chamber of Commerce intimating that the tea rate for June would be £7-13-9. Members of the Association had been informed to this effect, and a cablegram had been sent to the Indian Tea Association, London. The letter was to be recorded.

PROPOSED LEGISLATION REGARDING THE SALE OF FERTILISERS IN INDIA.—It was stated in the proceedings of the meeting, held on the 25th May, that a Sub-Committee, consisting of the Hon. Samuel Best, Messrs. W. M. Fraser and J. Ramackers, had been appointed to draw up a reply to a reference, dated 19th March, on this subject from the Government of Bengal, Revenue Department, forwarding Government of India circular No. 224-368-19, dated the 18th February. Accordingly the Sub-Committee held a meeting on the 28th May which was attended by Mr P. H. Carpenter, the Association's Chief Scientific Officer, and Mr. L. A. Chapman, of Messrs. Balmer Lawrie & Co.

The draft letter, which the Sub-Committee proposed to send to the Government of Bengal dealing with the provisions of the Act adumbrated in the above quoted Government of India circular, now came before the meeting. It was decided to circulate the draft to all members of the General Committee, for note and criticism.

THE RUBBER GROWERS' ASSOCIATION.

(INCORPORATED).

Extension of the Uses of Rubber.
£5,000 in Prizes.

The Rubber Growers' Association (Incorporated) offer the following awards for ideas and suggestions for extending the present uses, or for encouraging new uses, of rubber :—

One prize of £1,000.

Three prizes of £500 each.

Ten prizes of £100 each.

A sum not exceeding £1,500 to be divided amongst the remaining Competitors whose suggestions are considered to be of value, according to the relative value of their suggestions, but so that no Competitor will receive more than £100.

Suggestions must be practical, and likely to increase the demand for the raw material. Ideas will be welcomed for the application, in new directions, of existing processes, methods or manufactures, or for improvements or new processes which will facilitate or cheapen the production of rubber goods.

Competent judges (technical and otherwise) will be appointed to investigate and adjudicate upon the suggestions received.

All competitors must accept the following conditions :—

CONDITIONS.

1. Special value will be attached to suggestions of a thoroughly practical nature, supported by reasons and detailed information likely to make them effective.

2. The relative value of suggestions which are deemed practical will depend upon the quantity of raw rubber their adoption would absorb, and special consideration will be given to practical suggestions likely to utilise rubber in *large* quantities.

3. No apparatus, method or process suggested is to be protected in any country by Letters Patent, or otherwise, by the Competitor or the Rubber Growers' Association. Every successful Competitor must be prepared, if requested by the Rubber Growers' Association, to make a Statutory Declaration (at the expense of the Association) that he has not made and does not intend to make, and that to the best of his knowledge and belief, except as disclosed by him in compliance with clause 5 (*f*) of these conditions, no other person has made or intends to make, any applica-

tion for Letters Patent (or like protection) in respect of the method, apparatus, or process suggested by the Competitor, and that, to the best of his knowledge and belief, the method, apparatus or process suggested is not the property of any person other than the Competitor.

4. The Council reserve the right at any time to publish, test, and otherwise deal with suggestions made by any Competitor, whether he receives a prize or not, in any manner which is thought likely to stimulate the demand for raw rubber, and all Competitors shall be deemed to have authorised such publication, testing or dealing with as the case may be.

5. Each suggestion to bear a *nom de plume* or number, which should be placed upon the right hand corner of each page used. Particulars should be clearly and legibly written or type-written on one side of the paper only.

In submitting suggestions, Competitors shall give the following particulars, with such others as they deem advisable :—

(*a*). A short preliminary description of the suggestion.

(*b*). As full a detailed description as possible should follow, with explanations, samples (if any), diagrams and designs to enable the suggestions to be fully adjudicated upon by the judges and, if necessary, adopted by a manufacturer.

(*c*). The facts upon which the Competitor bases his belief in the value and practicability of the idea, and his special means of knowledge (if any).

(*d*). Any information the Competitor may have as to :—

(1) The cost of manufacture of the article ;

(2) The possible demand for it ;

(3) The quantities of raw rubber likely to be utilised in its manufacture.

(*e*). Whether the suggestion has been already adopted, partially or wholly, and by whom, and when, and with what results.

(*f*). Whether the suggestion is, in the Competitor's knowledge, in any way covered by Patent Laws, or has been the subject of any application for Letters Patent by any person, or is in any way affected by any Letters Patent, etc., in any country.

6. The decision of the judge or judges shall be final and binding on all Competitors, and will be communicated direct to all the Competitors.

7. In the event of the judges considering two or more suggestions to be of equal merit, or in the event of a disagreement between the judges, power is reserved to divide the prizes.

8. Suggestions must be accompanied by a sealed envelope bearing outside the *nom de plume* or number, and inside the real name and address of the Competitor. Names of Prize Winners only will be published.

9. All Competitors shall be bound by the conditions governing this competition.

10 The closing date for receiving suggestions from Competitors is the 31st December, 1920. Envelopes will not be opened before this date.

11. Suggestions should be addressed to—

The Rubber Growers' Association Prize Competition,
c/o Messrs Fitzpatrick, Graham & Co.,
Chartered Accountants,
95a, Chancery Lane, London, W. C. 2,

N.B.—All enquiries in connection with the Competition (other than the Competitive Suggestions) should be addressed to the Rubber Growers' Association (Dept. C), 38, Eastcheap, London, E. C. 3.

THE INDIAN ARMY RESERVE.

The Secretary, U. P. A. S. I., has received from the Government of Madras, Revenue (Special War) Department, a copy of letter No. 7012, dated 3rd June, 1920, from the Government of India, requesting information relating to the number of officers likely to be available for service should the need arise. We give the letter in full as being of great interest to the planting community, so many of whom have done their bit, and are therefore personally interested in the suggestions of the Commander-in-Chief for their employment in time of need.

[COPY.]

FROM THE GOVERNMENT OF INDIA, ARMY DEPARTMENT.

TO THE CHIEF SECRETARY TO THE GOVERNMENT OF MADRAS.

No. 7012, *dated the* 3*rd June*, 1920.

I am directed to invite a reference to Home Department Letter No. 190-201, dated the 19th January, 1915, which dealt with the expansion of the Indian Army Reserve of Officers during the war.

2. The great majority of these Officers have been released from Army Service, and the Indian Army Reserve of Officers will be reconstituted in due course, with the object of providing a trained reserve capable of supply-

ing the needs of the Army in India when engaged in its normal duties of defending the frontiers of India.

3. This reconstitution must be deferred until the principles of the new scheme have been sanctioned by His Majesty's Government. It is necessary, however, to consider possible requirements of an immediate nature, and to provide, so far as circumstances permit, for reinforcements in the shape of British Officers, who would be needed in the event of the mobilisation of the field army and extensive operations on the frontiers of India.

4. It is fully recognised that, though Officers still holding commissions in the Indian Army Reserve of Officers are liable to be called to army service in any emergency, the enforcement of such legal liabilities would be undesirable. Most of these admitted to the Indian Army Reserve of Officers were permitted to apply by their employers, public and private, owing to the pressing needs of the Empire in a particular emergency of an unprecedented nature. It is not to be expected that local Governments and commercial firms would be prepared to make similar sacrifices under different conditions. At the same time an urgent need for Officers, especially in the case of the administrative services must arise should the Army be committed to serious operations. Obviously this need could best be met, in the interests of military efficiency. by the recall to army service of those Officers who have served during the War, and it is important to ascertain to what extent such Officers can be regarded as available, should the need arise.

5. Apart from those who retain commissions in the Indian Army Reserve of Officers, there are many who have relinquished temporary commissions in the Regular Army, and these latter could be utilised with great advantage. In the event of an emergency they could be appointed to the Indian Army Reserve of Officers as at present constituted, due regard being paid to the rank they held in the Army. It is proposed, subject to the Secretary of State's sanction that any Officer called to Army Service should be eligible for gratuity on release at the rate of pay and. allowances for one month for a completed year, a proportionate amount being admissible for each month or part of a month of Army Service.

6. Should the need arise, therefore, it is not proposed to recall Officers, in spite of existing liabilities, but to call for volunteers; and it is hoped that His Excellency the Governor in Council will be able to assist by exerting his influence with non-official bodies and Associations, and further will consider whether it is possible or desirable to place at the disposal of the military authorities any of those public servants who have gained experience as Officers during the War.

7. It is of importance that His Excellency the Commander-in-Chief should be able to frame an estimate of the numbers likely to be available in certain eventualities. Any shortage of trained regular officers could be made good by the utilisation of the reserve. and of those who have served as Officers during the War, but it is not intended to recall any such Officers without the consent of their employers, and it is therefore desirable to know the extent to which reliance can be placed on this source in time of need. The decision rests, not only with Chambers of Commerce and Commercial or Industrial Associations, but also with local Governments and Departments, in as much as fully one-third of the existing reserve consists of public servants.

THE PRESENT COST OF OPENING UP RUBBER ESTATES.

In view of the recent demand for land in the East for the cultivation of rubber, it may perhaps be interesting to set forth a few facts and figures, on comparative lines, showing the great increase in present-day planting costs as compared with the period before the war. It is, of course, impossible to lay down any definite basis of cost, as local conditions play so large a part in any proposition, but there are sufficient data to prove that any new planting scheme requires at least 100 per cent. more capitalisation than before the war.

The first consideration is the land itself. At the present time there is keen competition in the East for land up to 100 dollars (nearly £12) per acre, more particularly in the Malayan Archipelago. Ten years ago land in the same district could be, and was, purchased at from £1 to £4 per acre, the latter figure being considered a very high one at the time.

The Labour question is the next one that calls for mention. In 1910 the average daily wage all over the East was 20 cents per cooly, whereas the present rate is 40 cents, and in some cases even higher. In addition nearly all estates have to bear a heavy loss in connection with the supply of rice and other native foods, which have to be supplied to the coolies at a fixed figure, which is, like the "laws of the Medes and Persians," unalterable, although the cost to the companies leaps merrily upward. Again, those companies enjoying the privilege of Tamil labour have recently agreed to allow their coolies to remit their surplus funds to India at the old rupee rate of exchange, which means in effect that the companies have had to buy rupees at round about half-a-crown, for which the coolies pay them 1s. 4d.

Not less important is the question of the cost of materials, although the effect of the rise in price is more apparent when an estate is in bearing than in the preliminary stages. At the same time a certain amount of machinery is required at the start of operations, in addition to housing accommodation for those who undertake the pioneer work of an estate. If imitation be the sincerest form of flattery, then it can truly be said that those who are responsible for prices in the Middle East must have an intense admiration for the conditions prevailing at home, for prices there have gone up with a consistency that one could not but admire, if the results were not so costly.

Another potent factor is the exchange problem. This has been very acute, more especially in India, Ceylon and the Dutch East Indies. It is not within the province of the writer to endeavour to explain the why and wherefore for the exchange trouble, but simply to note the effect. So far as the rupee is concerned, the increase in the value had the effect of nearly doubling the cost of remittances from England, and the Dutch guilder, while not varying to so great an extent, has caused great anxiety to directors of rubber companies, inasmuch as at one period during the last twelve months only 8½ guilders was received for every pound sterling remitted, instead of the normal 12. At the present time the value of the sovereign is approximately 10½ guilders, but it is still a "long, long trail" to the normal.

With the above facts in mind, it is not necessary to offer further explanation of the large increase in the cost of planting up an estate in post-

war days, as compared with a decade since. The following figures speak for themselves:—

	Pre-War Estimates.		Post-War Estimates.
	$		$
Cost of land per acre, say ...	25	...	50
Felling	8		
Burning	25	...	60
Clearing	4		
Liming	1		
Holing	1	...	5
Planting	1	...	2
Drains	3	...	7
Roads	1	...	2
Nurseries	1	...	2
	70		128

This represents an initial cost of nearly £15 per acre at the present time, as against £8 in pre-war days, and does not allow for manuring, weeding, general cultivation, etc. Further, it must be borne in mind that tapping does not commence under the best circumstances until the trees are five years old, and it is during the time between planting and tapping that the large increase in cost is apparent.

In pre-war days it was found sufficient to estimate £10 per acre for the first year after planting, and £5 per acre for the remaining four years, making £30 per acre, which added to the original £8 per acre, gave a total of £38 per acre. Present-day estimates are allowing in some cases £15 per acre per annum for the whole five years, equal to £75 per acre, which, added to the original figure of £15, makes a total of £90 per acre.

An examination of the accounts of the older rubber companies will bear out the figures in the first column above. Indeed, there are many companies whose estates have cost in bearing not more than £35 per acre. Planting schemes in the year of grace 1920, however, would be unreliable if they provided for bringing to maturity at even double that figure. The view is now held in many quarters, in the light of modern experience, that companies commencing now will do well if they are able to bring their estates to full production at anything under £ 100 per acre.

Having looked at the cost of production, it is interesting, if not instructive, to reflect on the fact that, while costs have doubled, the market value of the finished product has steadily declined.

It must of course be admitted that estimates made in the time of the rubber "boom" in 1910 were not infrequently on the low side. This is evidenced by the fact that some companies had to raise further capital in the shape of debentures and like securities before their estates had reached maturity. More recent estimates, however, have profited by the experience, of earlier schemes, and are based on actual results obtained.

It is interesting to note that the investor in rubber shares is quite willing to pay a price per share equal to £150 per acre, and it may be mentioned, is passing, that this system of valuation is perhaps adopted more frequently than any other when discussing the merits of rubber shares generally.

To sum up, one arrives at the conclusion that at least twice the capital is required to-day to bring an estate into bearing, as compared with ten years ago, and further, this is due to so many factors that there is very little hope of conditions ever returning to their pre-war standard. It is at any rate satisfactory, and a proof of the stability of the industry, that rubber companies have carried on, and will continue to do so, with a receipt of round about two shillings per lb., in spite of the fact that costs have increased so alarmingly. That being so, the writer will perhaps be forgiven for paraphrasing the claim of another commodity, and ending these few remarks with the words—" Nothing like rubber."—J. S. G. (*Indian Rubber Journal*).

NOTES AND NEWS.

£5,000 for Suggestions.

On another page we publish the particulars of the Rubber Growers' Association competition, in which suggestions for extending the present uses and for encouraging new uses of rubber are asked for. Attention is drawn to the closing date, which is 31st December, 1920.

Ceylon Tea.

The quantity of tea railed from Colombo and Galle *via* Talaimannar for the week ending 14th June, 1920, according to the *Ceylon Chamber of Commerce* Weekly Price Current was 4,665 lbs, all for Cannanore. For the week ending 21st June the figures were :—

	lbs.
Kumbakonam	500
Cochin	1,105
Tellicherry	1,988
Badagara	1,200
Salem	1,000
Trichur	1,000
Madras	300
Total ...	7,093

The Coimbatore Golf Club.

The new course of the Coimbatore Golf Club is to be opened by the Collector on Wednesday next. Planters who are golfers will remember, no doubt, to bring a bag of clubs with them when next they visit Head-quarters.

The Markets.

Coffee continues to drag, but we may hope that, together with Tea and Rubber, the greatly improved Continental Exchange will lead to increased buyings from the Continent. Without this factor, producers of all three products are at the mercy of the Home Trade, and, in the case of Rubber, America.

Obituary.

We regret very much to note the death of A. H. Gerrard, of Ladrum Estate, Peermade, at the age of 63. His end was very sudden, as, on the previous Saturday, he attended the silver wedding celebration of Doctor and Mrs. McCormack. We extend our deepest sympathy to his relatives.

Dr. McCormack.

Mention of the popular Peermade Doctor reminds us that our congratulations are due to him and Mrs. McCormack on the occasion of their Silver Wedding. We have particular knowledge of their generous hospitality, as it happens, and wish them many, many happy returns of this anniversary.

The Monsoon.

It must certainly be pretty bad this year at Mundakayam, whence proceeds the latest addition (?) to the Planters' Library.

The Labour Department.

One Manan, of Kalnad village, Chandragiri, Kasargode Taluk, has found the long arm of the Labour Department too much for him. With the help of one or two planters from whom he endeavoured to obtain advances on the strength of a forged recommendation, purporting to be signed by an Agent of the Department, he has been brought to book, and sentenced to two years' rigorous, and a fine of Rs. 20.

Act I of 1903.

A Gazette notification states that, under section 4 of the Madras Planters' Labour Act, 1903, the Governor in Council is pleased to authorize Messrs William Herbert Martin and Archibald Arthur Brodie, planters in Manantoddy, Malabar District to attest the execution of Labour Contracts.

The Unwily Mosquito.

We were reminded, after the Surgeon-General's lecture the other evening, of that humorous drawing portraying the return of "pa" mosquito to the bosom of his family, sedately squatting on a twig. His steps were rather erratic, and an occasional distinct lurch called forth strong comments from his waiting spouse. "M' dear," said he in response, "so sorry—I've just bitten a Scotchman by mistake."

The Merlimau Decision.

At the annual meeting of shareholders of the Merlimau Rubber Estates, Ltd., on Monday, the chairman of the company (Mr. A. H. Bagnall) referred once more to the vexatious delay which has occurred in settling the company's liability to Excess Profits Duty. The appeal, when heard before the General Commissioner, was concluded in the company's favour in July, 1918, following which the Crown gave notice of appeal. Twenty-two months have now elapsed, and yet the Crown has still to decide whether it will prosecute the appeal, or accept the General Commissioner's decision as final.

Company Meeting—Stagbrook Rubber and Tea Estates.

The net profit, after writing off a further £500 to depreciation and charging all development expenditure on the immature area to current account, amounts to £11,458. Adding £5,695 brought forward, the total is £17,153. Less dividends previously paid and E. P. D., and a dividend of 15 per cent. less tax (absorbing £10,500), an amount of £6,653 is carried forward. The rubber harvested was 238,120 lb. against 205,000 lb. last year, and the tea crop was 493,664 lb. The rubber was produced at a cost of 11·47*d*. per lb. f.o.b., and realised an average of 1*s*. 9·13*d*. per lb. net. The estimated rubber crop for the current year is 290,000 lb. In order to provide for the necessary expenditure of planting 500 acres with tea, the authorised capital is proposed to be increased from £70,000 to £100,000.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

Sir,—I am sending you the enclosed gem, in case you may care to publish it. Whither are we tending in these decadent days?

Yours faithfully,
PLANTER.

(ENCLOSURE.)

To the Manager,

.....Estate.

Sir,—Beg to say I can recommend a Tamil Maistry who is able to keep a very good gang. He is now towards Coorg. If required I can wire and get him down and bring him up personally, and on arrival in Estate you must kindly give us the travelling expenses up and down. The Maistry has been working in Ceylon, Singapore, and in India. He possesses many certificates, and herewith I enclose his terms for your kind perusal. The coolies are from Erode, Salem, Madura, and other places. Hope to receive an early reply, please. To start with, he will keep from 15 to 20 coolies without advance.

THE TERMS OF THE TAMIL MAISTRY KEEPING COOLIES WITHOUT ADVANCE.

(1) Coolies to work from 6 A. M. to 2 P. M.

(2) Wages: Men @ 11 annas, Women @ 8 annas, Children @ 4 annas for every working day.

(3) Commission @ Rs. 15 %, one sub-maistry for every 15 coolies, and pay of each sub-maistry Rs. 20 per month.

(4) Head Maistry pay Rs. 30 a month, and Head money @ Re. 1 per cooly a month.

(5) Coolies will be kept without any advance for 10 months; coolies on arriving the Estate the Maistry should be paid @ Rs. 5 per head; way expenses and cumblies should be supplied. If any coolies bolt, new coolies will be replaced, or the amount Rs. 5 per head will be paid back. If any coolies die the Estate should allow Rs. 10 per head, and 4 coolies for burial.

(6) Good lines should be supplied and medical aid.

(7) Two watchers should be given for every 100 coolies.

(8) The Maistry is willing to supply as many coolies required, and he requests that no other Tamil Maistry should be employed, and no other Maistry should interfere with his coolies, and they should not be taken in any other gangs, or in estate gang. If any misunderstanding takes place, the complaint should be brought to you. If any coolies are removed from his gang he should be paid Rs. 15 per head by the second party, whoever employs his men.

Dated 16—6—20.

The Planters' Chronicle.

Recognised as the Official Organ of the U. P. A. S. I.

Incorporated.

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EDWIN VINCENT,
Managing Editor, Coimbatore, S. India.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

VOL. XV. No. 29.] JULY 17, 1920. [PRICE AS. 8.

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STATISTICS.

Vital and Otherwise.

One might paraphrase a famous tag and say there are three kinds of lies, the white, the black, and Statistics. To carry this further a step, the third variety becomes a mixture of the first two, and this, no doubt, is very often the case, the difficulty of obtaining reliable figures leading to an admixture in statistics of more or less accurate forecasting, with rough estimating, the latter so often far enough from the truth as to be nothing less than downright falsehood, the former near enough to pass muster, and the resultant whole a piebald thing of doubtful ancestry.

We were discussing the question recently with a well known planter on the lines of the necessity or otherwise for legislation, and we came to the conclusion that, however much legislation may be necessary in the collection of vital statistics, it would not work in the matter of crops and acreage, although desirable, if our industries are to be in a position to face sudden emergencies such as that, for instance, which confronts the tea industry to-day.

The U. P. A. S. I., as is well known, has made an attempt during the past year to collect figures from the three main interests it represents, and the result of a certain amount of expenditure and a maximum of effort has been, to say the least of it, rather disappointing. We have dealt with this question in previous editorials from the purely personal point of view, the object of the figures being to place the Secretary in a position to quote accurate statistics when called upon by Governments, Chambers of Commerce, etc., as the case may be, to give some idea as to what acreage, what extent of produce, what number of coolies, or what amount of vested interest would be effected by a change in law, a health campaign : for instance, a scheme such as the restriction of output suggested at one time for Rubber and now for Tea, or perhaps a question of financial help, as was the case with Coffee Planters two years ago. Governments and public bodies generally naturally look to the U. P. A. S. I. to give these figures, and it is somewhat of a blot on the planter's reputation for straightforwardness and businesslike methods that, for 25 years, the Secretary has not been in a position to furnish the desired figures, when occasion arose, with any degree of accuracy. In fact all that can be said is that the U. P. A. S. I. knows how many acres of each product pays the yearly cess to the Association, and the matter to all intents and purposes ends there.

There is something surprising in this, and yet it is the experience of many other associations akin to our own. We have, for example, the Rubber Growers' Association, which has found it necessary to appeal to the Colonial office for help, as a result of which Colonial Governments are at the present moment engaged in collecting statistics of the Rubber Industry which will lead, we hope, to the successful forging of a useful instrument to our leaders when occasion arises for its being put into operation. But, apart from this personal need, there is the much wider view of the industry as a whole, in this and other countries, and even if, say, Ceylon succeeded in framing absolutely accurate statistics of the Rubber Industry, these would not be of much use if the general question of the interests affected in the Empire as a whole are to be studied. It would seem, therefore, that legislation is most desirable, but the imagination staggers under the realization of the machinery which would be necessary to put it into operation. In all rubber producing countries there is a growing number of small cultivators, who have been attracted by the past prosperity of the Rubber Industry into the planting of Hevea, and the furnishing of figures by this, collectively, large acreage would, we think, prove most difficult. Apart from this, it is a fact that, although the larger estate agencies freely give figures relating to estates under their control, the individual planter, private proprietor, or one-estate concern, is usually most difficult of access and is prone to ignore the requests for information. To harass this fairly large class with forms and repeated demands from minor officials, such as village magistrates, may be calculated to rouse the susceptibilities of a community notoriously averse from interference by others. That is the position, and if statistics are

necessary, which we are certainly convinced they are, it looks very much as if the costly and elaborate machinery required to *force* planters into giving information will, after all, be found the only means of obtaining it.

Coffee is a particularly typical product about which we can gain but a fragmentary idea. What is the use, for instance, of getting figures from a portion of the 50,000 acres affiliated to the U. P. A. S. I. when we know there are some 150,000 acres in native and other hands, about which we know nothing. What is one to do with the coffee planter who writes to the effect that he cannot be bothered with such things as statistics, which he has never been asked to furnish during the past 40 years, and sees no reason why he should furnish now. How are we going to avoid legislation eventually, when we are up against people like that ! !

With vital statistics we are in a different arena. A correspondent, the other day, had a suggestion to make regarding a bonus to expectant and actual mothers. We have repeatedly drawn attention to the influence of epidemic diseases on the labour force, both in actual numbers and capacity for work. There is need for more personal interest by planters in the marriages and deaths of their coolies. Sick returns are usually most perfunctory affairs, when they should be one of the main items in the science and practice of estate management. All these things are human questions. They affect the person of the cooly, they are, in short, vital statistics ; and, as such, the compilation of figures and accurate figures at that should be made compulsory. We remember being asked recently what percentage of the labour force had been attacked during the 1918 influenza epidemic. The answer to that was that practically 100 % suffered. But how many planters could say off hand, or from their estate records, how many had died or had returned to their villages ; for how long they had been off work, and what the resultant loss had amounted to in days of work and profit? And, is there not a direct connection between the two, vital and material. We are quite sure that a table drawn up in a way showing, say, daily average number of coolies at work in 1917, acreage worked and yield secured, when compared with a similar one showing the figures for 1918 and another for 1919, would teach some planters and remind others of the inter-relationship of results and the vital statistics. A similar form, showing sick returns for the years in question, number of deaths, days lost by sickness, coolies returned to their villages, etc , would explain the rise and fall apparent in the former table. In the form of graphs the two aspects of the question would be found to take parallel lines.

The extraordinary thing about it all is its obviousness, and yet, if it were obvious to all, we should not be in the position we are to-day of considering the necessity of asking Government to legislate on a question which every planter, worth his salt, has long ago made up his mind, is of extreme importance to him, personally, and to the planting industry as a whole,

UNITED PLANTERS' ASSOCIATION OF SOUTHERN INDIA.

(Incorporated.)

Notice is hereby given that the Twenty-seventh Ordinary General Meeting of the Members of the abovenamed Association will be held at the Mayo Hall, Bangalore, on Monday, 23rd August, 1920, commencing at 2-30 o'clock of the afternoon, and continuing on the following days for the purpose of receiving the Report of the Executive Committee, Accounts and Balance Sheet, electing a Chairman and Auditors for the ensuing year and special business as set forth in statement of Agenda printed over leaf.

By order of the
Executive Committee,
H. WADDINGTON,
Secretary.

11th July, 1920.

U. P. A. S. I., ANNUAL MEETING.

AGENDA.

1. The Chairman's Address.
2. The Planting Member.

Ordinary Business

3. Report of the Executive Committee.
4. Accounts 1919—1920.
5. Election of Chairman and Auditors.

Special Business.

6. The Labour Department.
7. The Scientific Department.

TEA
8. Duties on Tea
9. Income Tax.
10. Tea Cess & Tea Cess Committee.
11. Control of Production of Tea.

RUBBER
12. General matters concerning Rubber.
13. Rubber Mycologist Station.
14. Rubber Exhibition in London, 1921.

COFFEE: GENERAL
15. General matters concerning Coffee.
16. Articles of Association & Rules of U. P. A. S. I.
17. Reform Scheme and election of Planting Member.
18. Legislation.
19. Incorporation of District Associations.
20. War Memorial.
21. Co-operative Stores.
22. Indian Defence & Auxiliary Forces.
23. Roads and Communications.
24. Harbours.
25. Railways.
26. Shipping, freights, tonnage & passages.
27. Medical Aid on Estates & Government Hospitals.
28. Land Tenures & Malabar Tenants Improvement Act.

29. Statistics.
30. Finance.
31. Exchange.
32. Budget 1920—1921.
33. The Planters' Chronicle.
34. The South Indian Planters' Benevolent Fund.
35. The South Indian Planters' War Fund.

Affiliated Associations.

36. London Chamber of Commerce.
37. South Indian Association in London.
38. The Rubber Growers' Association.

The Secretary will be obliged if members will advise, as early as possible, the names of the gentlemen who will act as their representatives at the Meeting.

H. WADDINGTON,
Secretary.

UNITED PLANTERS' ASSOCIATION OF SOUTHERN INDIA,
(INCORPORATED.)

Notice is hereby given that a Meeting of the General Committee of the above-named Association will be held at the Mayo Hall, Bangalore, on Monday the 23rd August at 10 o'clock in the forenoon.

Agenda.

1. To confirm Proceedings of last Meeting.
2. Admission of District Associations to Membership.
3. Admission of Companies, Firms and persons to Membership.
4. Order of Business at Ordinary General Meeting.

Dated the 14th July, 1920.

By Order of the Executive Committee,

(Signed) H. WADDINGTON,
Secretary.

Notice is hereby given that a Meeting of the General Committee of the above-named Association will be held at the Mayo Hall, Bangalore, on Thursday the 26th August at 2-30 o'clock in the afternoon.

Agenda.

1. To elect an Executive Committee.
2. Finance.

Dated the 14th July, 1920.

By Order of the Executive Committee,

(Signed) H. WADDINGTON,
Secretary.

AGRICULTURAL DEPARTMENT, TRAVANCORE.

Cardamon Pests.

Leaflet No. 95.

All living organisms are subject to disease and death. Diseases are not partial to man and animals alone. They attack plants as well, and cause great loss to cultivators.

Experience for the last four years has taught the cardamom cultivator the seriousness of plant disease, and how it affects him economically when once the disease is there. The cardamom of Travancore is affected by a very serious pest. It is caused by a minute microbe that enters the leaf, and then spreads over the entire plant and destroys it. The disease first shows itself ordinarily on the leaf in the form of small, brown, roundish specks, which widen rapidly and often coalesce. The central portions of the specks assume an ashy grey colour, and perforations are often seen on them. The leaf margins are zoned in different shades of brown, green and yellow. In some other cases the margin of the leaves turns brown and shrivels up, and the entire leaf turns yellow subsequently, withers and ultimately hangs drooping from the stalk. There is another type in which discolouration begins on the tip of the leaf and then spreads over the entire leaf, which then dies. Then the whole leaf stalk assumes a dark brown colour, and, by the time the leaf withers, the stalk becomes very soft and watery, and can be easily pulled off from the rhizome. The soft root extends into the rhizome, which becomes discoloured and gradually decays, forming a watery mass of putrefying tissue. This is caused by a minute fungus which can be seen only with the help of a microscope. The tiny spores of the dead leaf fall on fresh leaves, and there they develop very fine root-like tubes with which to extract the sap of the plant, and spread downwards to the stem, and finally to the roots.

The leaves are not the only portions affected. The roots are also liable to the attack of spores. The racemes of flowers and fruits have also been found to be attacked by the fungus. The spores are found in very large numbers on withered leaves killed by the fungus. Ryots who prune the affected stems in withered leaves in infected plantations leave the *debris* here and there. This is a dangerous practice, as the spores on the dead leaves and plants do not perish easily, but linger on and infect the new shoots that come out again, and also affect the roots and tubers through the soil. The affected and withered stems and leaves should therefore be cut and burnt, and on no account should they be thrown about, as is now done.

It has been observed that the ryots replant depleted areas with infected bulbs which contain the fungus, and that the disease manifests itself in a dominant form when the plants establish themselves. The presence of the pest is first noticed only 2 or 3 months after planting the bulbs, when the new shoots come up and spread the leaves. Ordinarily, a healthy bulb sends out 7 to 12 fine shoots. But in deceased bulbs the number of shoots is much less. Besides, even the leaves that open out of the shoots are pale and sickly looking, and not green and healthy as they should be. The centre of the leaf near the midrib turns yellow, and a general sickly pallor spreads over the leaf, and the plant withers in the course of a few weeks. The mistake here is in planting infected old bulbs. Old bulbs must be rejected, and, as far as possible, only fresh bulbs of the previous years be selected for planting. Even this must be from a plantation not affected by

disease. This may be very difficult for the present, because almost all the plantations are affected. Therefore, the best thing to do will be to take fresh bulbs and dip them for 2 hours in a solution of corrosive sublimate, (1:1000) and then plant them in a nursery exposed to sunshine. In two months, when the plants come up, one can easily select healthy plants from sickly ones at a glance. It is safer to grow the bulbs in a nursery, and then plant out healthy plants.

Another very important point to be considered is the soil. Ryots plant up areas depleted by disease without doing anything to the soil. The spores of the disease are found in the soil also, and then can easily infect the newly planted bulbs or seedlings. In order to avoid this danger, old pits must be abandoned. The lines may be altered, and new pits dug between the old ones. In the new pits, which must be 9 feet apart, about 5 lbs. of quicklime should be applied and allowed to slake in the pit. The heat generated by the slaking of the lime will help to kill the spores, and lime will neutralise the acidity of the soil, which favours the growth of the fungi-causing disease. If the pits are dug and applied with lime just before the rains, the rain-water will slake it. When the pit is cool, leaf mould and earth may be put in, and the plants raised in nursery, planted out. It is very necessary that the plants should be 9 feet apart. Thick planting is bad. Planting more than 537 plants per acre is very dangerous. If the plants are crowded, the disease may be transmitted from plant to plant quite easily. The usual practice of leaving 2 of the old stems, with withering leaves full of the spores of disease, on the bulbs which the ryots plant out directly, should be discontinued. When new shoots come out of the bulbs the spores from the old leaves infect them and cause the disease on the young plants. The best method is to plant out young plants grown in a nursery. In the nursery also the bulbs alone must be planted, without the old stems or leaves. Seedlings will be better than plants raised from bulbs. The best thing will be to select healthy big pods, free of disease, from a healthy plant, treat the seeds for five minutes in a solution of corrosive sublimate and then sow them out in a nursery. When the plants come up, the healthy ones can be selected and planted out in pits which have been limed, as suggested above. No doubt, the seedlings take a year longer to yield, and the system of cultivation involves a little additional expenditure on account of the nursery. But on the other hand the plants will be more robust, and resist disease much better. Besides, the control of disease is easier than in the case of bulbs.

Part of the life of the fungi that devastate the cardamom is spent on the leaves and pods of Erythrina lithosperma. The disease found on the cardamom leaf has also been observed on the Erythrina planted for shade. When the leaves of Erythrina shed, about the middle of September, (Puratasi) just before the rains, all the spores on the leaves and pods of the tree fall on the cardamom plants and infect them. Cardamom ryots are strongly advised to cut down all Erythrina trees planted for shade, and are also warned not to introduce Dadaps any more as a shade plant in cardamom plantations.

There is an idea current among the ryots that the Mysore cardamom is more hardy, and can withstand the disease. This is not correct. Experiments and observations have revealed the fact that the Mysore variety is not immune. On the other hand, it is just as susceptible as the Travancore variety. In fact, the Mysore cardamom has to reckon with more enemies, such as insects and eelworms, than the

Travancore variety. One cannot avoid the disease by simply changing the variety. As long as the disease is there, strenuous efforts must be put forward to combat it. United action on the part of the ryots is extremely desirable, if the disease is to be eradicated.

There is no use in improving one estate, when the neighbours sit quiet and do nothing to eradicate the pest from their estates. Even an estate from which the pest has been eradicated can be re-infected from the surrounding affected plantations. It is highly desirable, therefore, that the ryots should form Thavalam associations all over the cardamom hills for the eradication of the pest, and for maintaining their estates on sanitary and scientific lines.

SUGGESTIONS FOR THE ERADICATION OF THE PEST.

(1) In plots that have been depleted by the disease, the roots and rhizomes of the cardamom plant must be carefully dug out and burnt.

(2) Lining and holding for new planting must, as far as possible, be so adjusted as to avoid old pits.

(3) Lime is found to be a very efficacious remedy against plant diseases. Moreover, lime is also an important factor in maintaining the fertility of the soil. About 5 lbs of slaked lime should be forked in around the infected plants, and a top dressing of quicklime should be given generally in infected plantations.

(4) Before re-planting depleted areas, or "supplying," the holes should be limed. About 5 lbs of quicklime should be applied in each pit.

(5) Repeated propagation from vegetative parts, such as the rhizomes, roots, etc., (not from seeds), deteriorates the plants and makes them progressively more susceptible to disease. Hence, seedlings must be preferred to plants raised from rhizomes.

(6) Seedlings must be raised in a well-kept nursery. Seeds must be selected from plants that are free from disease. Selected seeds should be soaked in a weak solution of corrosive sublimate (corrosive sublimate one part and 1000 parts water, or 2 ozs. of sublimate to 15½ gallons of water), for at least ½ an hour.

(7) If, however, rhizomes are used for planting, they must be very carefully selected, and all the rotten tubers rejected. Rhizomes of the previous year should be preferred, and treated with sublimate solution or formalin solution for a period of 2 hours at least. (Formalin one pint and 30 gallons of water). The rhizomes must also be planted in a nursery, and the plants thereon must be carefully selected.

(8) The seedlings and young plants from bulbs must be sprayed once a month with weak Bordeaux Mixture. Bordeaux Mixture is, in reality, a very cheap and effective fungicide, and not so costly as is believed by some ryots and laymen. One will require 100 to 150 gallons of this mixture to spray one acre. Good results from Bordeaux Mixture can be obtained only

if careful attention be given to the materials employed, and to the preparation Materials required for making 50 gallons of Bordeaux Mixture are,—

5 lbs. of copper sulphate. (Blue stone)
5 lbs. of quicklime, and
50 gallons of water

Copper sulphate must at least be of 98 per cent. purity, and not the ordinary kind, with iron sulphate. Rock lime is just as good as shell lime. It must be freshly burnt. The water used is better cold.

PREPARATION.—(A) Procure 2 half-barrel tubs, and also a full barrel.

Pour 25 gallons of water in a half-barrel tub, and then dissolve the copper sulphate by suspending it in a piece of gunny sacking just immersed in water. It dissolves slowly, and may be put in over-night.

(B) Put the lime in the other half-barrel tub, and just moisten it to slake. Add water little by little, and allow the lime to swell first and crumble slowly. When it is well slaked, work it down into a thick cream and gradually dilute it to 10 gallons of water. The milk of lime so made may be well stirred and strained through a fine sieve or piece of sacking, to remove all the grit, and then diluted again with the remaining 15 gallons of water.

(C) Pour the strained and diluted milk of lime in the full barrel and then add the copper sulphate solution little by little, and gradually mix the two solutions together. Keep on stirring well till all the 25 gallons of copper sulphate solution is mixed to the milk of lime.

Stir and strain again when filling the sprayers. The mixture must be always fresh, and cannot be kept for any period longer than 48 hours.

Very many different types of sprayers are in use in India. Alpha No. 5 A, supplied by Messrs. Shaw Wallace & Co., 4, Bankshall Street, Calcutta, is one of the most useful sprayers now available in India. The current price of the machine is Rs. 15 at Calcutta.

There is also another machine of similar capacity (2½ gallon) that is very popular. It is the "Assam" Sprayer, supplied by the same firm, at Rs. 40 each.

(9) All the withered leaves and *debris* should be carefully collected and burnt. All the affected leaves and stems must be cut and burnt.

(10) After pruning, the affected plants may be sprayed with Bordeaux Mixture. Spraying will have to be done at least once in 3 months.

The ryots are hereby informed that an experimental and demonstration farm has been started at Goodenpara, near Santenpara, where it is proposed to hold periodic lectures and demonstrations on cardamom pests.

The Mycologist will be very glad to render every assistance to the cardamom ryots, inspect private estates and advise the ryots personally during his periodic tours to the cardamom hills. The Assistant to the Mycologist in charge of the Cardamom Experimental Farm on Goodenpara Estate will render all help to the cardamom ryots on the spot.

All communications regarding the cardamom disease should be addressed to the undersigned.

Quilon,
10th June, 1920.

T. PADMANABHA PILLAI,
Mycologist.

ALTERNATE DAY TAPPING.

The question of alternate day tapping is coming very much to the fore at the present time. Different advocates of this period of tapping, as opposed to daily tapping, have supported it from different standpoints, and it will be well worth our while to enumerate these different standpoints. As compared with the daily system of tapping, it is stated that :—

(1) Alternate day tapping requires a reduced labour force, which, with the consequent benefits, is a great consideration at the present time.

(2) Alternate day tapping is less injurious to the trees, and renders them less liable to such affections as Brown Bast, and Black Thread Canker.

(3) Alternate day tapping will have a beneficial effect upon the rubber markets.

There are, however, opponents to the system of tapping on alternate days, says *The Malayan Tin and Rubber Journal*. They argue that :—

(1) The advantages which the advocates of alternate day tapping claim for that system are not commensurate with the reduction in crop, and the consequent loss of revenue and profits which it entails as compared with daily tapping.

(2) The benefits to the health of the tree itself, claimed for alternate day tapping by its advocates, the freedom from such diseases as Brown Bast and Black Thread Canker, are not proven; and, even were these benefits to exist, the extra profits derived from daily tapping would far more than pay for any necessary treatment of disease which might possibly occur.

(3) The possible increase in price of rubber due to a reduction of output from estates, on account of alternate day tapping, and hence a consequent shortage on the market, would not necessarily compensate for the reduction on the aggregate sale returns due to the reduced crop.

Let us consider, briefly, the *pros* and the *cons* of the situation.

It is obvious that, by bringing alternate day tapping into vogue on an estate, only half, or about half, the number of tappers will be required, with only half the number of native supervisors. It does not appear to us that the amount of European supervision could be materially reduced, though, perhaps, large estates requiring four or five European assistants might possibly manage with one less, if the tapping was changed from daily to alternate days. The reduction of estate labour force requirements would be, undoubtedly, a great boon to most estate managements in these days of shortage of labour. This latter subject has been discussed at great length already in the columns of this journal, and it would be out of place to enter further into the matter now. Nevertheless, reduced labour requirements would have other advantages than relieving the present situation of acute shortage of labour. A reduced labour force would require a reduced housing accommodation—a very desirable

thing at the present time, when building is so expensive. It would require a smaller rice supply, and hence the "loss on rice," which most European estates are now sustaining, would be reduced. We could further mention a reduction on hospital expenses and recruiting charges as following in the wake of reduced labour force requirements, and we must include, under the advantages on the "increase" side, an increased peace of mind for the management on the whole question of labour. A general reduction in labour requirements by estates, throughout Malaya, would mean that estate managements could possibly pick and choose between coolies and keep only the good tappers for tapping work. As it is at the present time, a manager, usually, dare not discharge a bad tapper, either for fear that he will not be able to replace him, or that the bad cooly, when leaving, will induce some more of the coolies to leave with him.

The second point brought forth by the advocates of alternate day tapping, *viz.*, the health of the trees and their general well-being, is one which should be of first-class importance to every management. The good health of the trees is the capital of the estate. Fine factories, fine roads or bridges are very useful to the working of an estate, but all and everything else should come after the good health of the trees. Whether, or not, alternate day tapping, or even tapping at longer periods, is a means of preventing disease amongst the trees, is, however, a matter upon which we would like to receive a consensus of opinion from the scientific men interested in the rubber industry. Up to the present, there does not appear to be that unanimity of opinion on the matter in scientific circles: and we have only heard of one who advocates, to any large extent, alternate day tapping as a preventive method against the affection of Brown Bast. Of course, it is obvious to us all, whether we be planters or not, that tapping is an operation which puts the tree under abnormal conditions, and we all know that living things, whether human beings, animals or plants, are more susceptible to diseases when placed under abnormal conditions. Tapping, whether it be daily, or alternate days or weekly, must interfere with the vital activities of the tree, but, whether the apparent greater interference produced by daily tapping is really more injurious to the tree than that caused by tapping at longer periods, is a matter to be decided by the scientists.

The effects upon the rubber market, which, let us say, a reduction of 30 to 40 per cent. of the present output of Malaya would cause, is somewhat difficult to anticipate. We are all sure that, were the trade conditions in Europe and America normal at the present time, our supplies of raw rubber would be insufficient to meet the demands of the buyers, and that prices would probably rise in consequence. Rubber stands out, nearly alone amongst the commodities of the world, as one which has not enjoyed an increased value on account of the abnormal trade conditions caused by the war. The price of nearly everything has risen—it may have been to fall again—but rubber, throughout the period of the war and after, has had a comparative monopoly with respect to its market value in the raw state. We, therefore, concur with the advocates of alternate day tapping, that any movement by which the value of rubber could be increased, and so brought more into line with the increased values of the other commodities of the world, is well worthy of consideration.

The "cons" of the case, as will have already been seen, do not refute, exactly, the advantages which would be enjoyed under a system of tapping on alternate days, instead of daily. They rather agree that alternate day tapping has its advantages, but, that the advantages which it has over daily tapping are not by any means equal to the disadvantages. The whole of the "cons" pivot on the question of a reduced output. Unfortunately, we cannot get any reliable *data* from

estates which have actually made a change, from daily tapping to alternate day tapping, which would guide estate managements correctly to estimate the loss of crop which is to be expected on making such a change. The only actual figures which we have had suggested to us as the returns from alternate day tapping on a quarter cut, is 60 per cent of that obtained when tapping the same quarter cut daily. Of course, we have all heard obvious advocates of alternate day tapping stating that the resulting crop is nearly the same as that obtained from daily tapping, but such statements badly need support from actual results as obtained on estates. Let us presume, for a moment, that alternate day tapping does cause a reduction of 40 per cent in the total annual output. The f. o. b. per lb of rubber depends directly upon the actual cost of tapping per lb., and the other general charges, inversely, upon the number of lbs. cropped. The higher the cost of tapping, or the general charges, the higher the f. o. b.; and the larger the crop the lower the f. o. b. The question at once arises, which is going to have the largest influence on the f. o. b., a reduction of the actual cost of tapping by a half, together with a reduction, to a smaller extent, in the general charges, or a reduction of the total crop by 40 per cent.? This is how the f. o. b. would be affected on changing from daily tapping to tapping on alternate days—provided that the 40 per cent. reduction in crop is a correct presumption.

Take a hypothetical case, where, with daily tapping, the cost of actual tapping per lb. was 12 cents, and the other general charges were 20 cents, so that the f. o b. was 32 cents.; with, say, an annual crop of 100,000 lbs. The total cost of actual tapping would be 12,000 dollars, and of the general charges would be 20,000 dollars. Change to alternate day tapping, and the cost of actual tapping would be approximately halved, *viz.*, 6,000 dollars, and the general charges would be reduced, say, by a quarter, and would be 15,000 dollars. The crop would be only 60,000 lbs., so that the f. o. b. would be 35 cents. Let us proceed further with this hypothetical calculation. Suppose that the selling price of rubber was 75 cents per lb., then the profit per lb., from the daily tapping, would be 43 cents, and the total profit would be 100,000 times 43 cents, or 43,000 dollars. With alternate day tapping the profit per lb. would be 40 cents., but the total profit would only be 60,000 times 40 cents, or 24,000 dollars. It will be noticed that it is not the few cents. difference in the f. o. b's., in the above cases, which make so much difference to the total profits, *but the difference in crop.* We must certainly state that, if the returns from alternate day tapping are only 60 per cent. of those from daily tapping, then it would appear, from the above hypothetical calculation, that one must need very great advantages to compensate for the approximate halving of the annual profits.

With such an argument before us as the above, we can quite appreciate the second objection which has been raised to alternate day tapping. Certainly the extra profits accruing from daily tapping should pay for all the necessary work of plant, sanitation and treatment of disease on estates. In reply to the statement, brought forward by the advocates of alternate day tapping, that their system would reduce bark consumption, the opponents question as to whether, on a well-worked estate, such conservation of bark is really necessary. One has, they say, nearly 20 lineal feet of bark (on quarter cut) for tapping purposes at the lower parts of the trunk of a tree, which would last about 13 years if consumed at the rate of 1½ inches per month; and who wants more than a 13 years renewal. Of course, it is well known that many old estates have been over-tapped in the past, and have now to look very carefully to find bark on the trees which is tappable. Alternate day tapping would undoubtedly assist such estates, in giving them time for the bark to renew, but, on well-worked young properties, there ought not to be any

need for alternate day tapping in order to issue a sufficiency of bark for future tapping.

The question of how a shortage of crop from Malaya would affect the prices of rubber, comes, states the opponent, to alternate day tapping on the same lines as the other advantages from that period of tapping. The possible increase of the few cents per lb. would by no means compensate for the great loss in total profits caused by the reduction in the output of an estate. Let us suppose, they say that, on account of the shortage on the market due to alternate day tapping, the price of rubber did rise 10 cents per lb. Then the extra 10 cents per lb.—a rise, say of 8 per cent—would not in any way compensate for the loss of 40 per cent. crop which is sustained in alternate day tapping.

In the above, we have given the *pros* and *cons* of the questions as we have been able to collect them. There may be, and are probably, others which we have omitted, but such as we have given may be of interest to our readers. It must be remembered in the above, that we have only been discussing the condition of one quarter cut tapped daily, as compared with a similar cut tapped on alternate days.

THE MONSOON.

Have ever you been in a good South-West,
Not a mere sprinkle, one of the best?
First comes the wind with "hurroo and hurroar"
Snatching a tile or a roof of straw.
Now hear the old devil, he says "teetree,"
Drowning a man, or felling a tree
Now all the elements let themselves go.
Not for an hour, but a month or so.
Howling and tearing and lashing with rage
Mark how the winds and the rain engage.
Where is that stream that was merely a pool?
Do not go there, you'll be drowned, you fool,
Best stop indoors and find something to do
To every leak, a basin or two.
In the bedrooms the frogs say, *tonk, tonk, tonk,*
Likewise the butler goes *honk, honk, honk.*
Look at the water, where does it all go?
Better ask someone more in the know,
If you build a dam of a mile or two *
Big wigs confabulate, "this wont do."
Likewise "avast" and "avaunt." Do you know
Water is meant for the people below?
Who are they? Thank goodness, not being there,
Can't say, nor do I very much care,
But I picture a land as flat as lice,
With little brown folk, breeding like mice.
And bureaucrats splendid with three foot lats,
And scientists bent on killing rats.
And air quite as hot as the seven hells
Rent by the tom-toms and temple bells.
Now though, no doubt, it is very well meant,
Dry land is really our element.
Well, what does it matter, after all?
We'll have fair weather after the fall.
So, with a pipe and a book and a fire,
I'll win to the land of heart's desire.

KODAGU-MYSORENSIS.

* Rauuambadi.

ELECTION OF THE PLANTING MEMBER.

The Secretary, U. P. A. S. I. has this week addressed Honorary Secretaries of District Associations asking for the names of their members, with a view to preparing the electoral roll for the planting constituency. We draw special attention to the matter here because it is one of some importance, and it may be that the new rules are not well enough understood by planters. Honorary Secretaries, therefore, are requested to give this matter careful and urgent attention, with particular reference to the dates mentioned below.

THE ROLL.—It will, perhaps, be as well to state at once that the electoral roll has to be printed after preparation by the Secretary, U. P. A. S. I., who is the registration officer for the constituency, and moreover it must be printed for formal publication in August. There is, therefore, very little time in which to prepare and print the roll, and, if any names are missing, it will mean disenfranchisement for the time being of such planters who fail to register.

QUALIFICATION OF ELECTORS.—A person is qualified as an elector for the Madras Planters' Constituency if he is a member of one of the Associations affiliated to the United Planters' Association of Southern India. He must not, of course, be subject to any of the disqualifications set forth in the electoral rules; *i.e.*, he must be a British subject, no female may vote, he must be over 21 years of age and would be disqualified if he has been adjudged by a competent court to be of unsound mind. No subject of a Native State may vote. There is also the usual disqualification relating to persons convicted of an offence under chap. IX A. of the I. P. C. and those reported as guilty of corrupt practices, etc, who may not vote for a period of five years from the date of the conviction or the report.

PREPARATION OF THE ROLL.—If, then, you are, on August 1st, entitled to exercise all the rights and privileges of a member of an Association affiliated to the U.P.A.S.I., and are not disqualified by any of the reasons stated above, you are entitled to a vote, and your name will be entered on the electoral roll by the registration officer. The latter requires the full name of the individual age, father's name (this is important) together with your address in full. Copies of the roll so prepared have to be posted in the office of the Association not later than 25th August, and must forthwith be sent for being posted in the offices of affiliated associations, so that there is not much time, as we have said, and Honorary Secretaries will need to look sharp.

CLAIMS AND OBJECTIONS.—The object of the formal publication of the roll in August, preceded by the way, by an informal publication now, is to give time for corrections as the result of claims and objections before final publication in October. When the copies of the rolls are sent out for posting in the offices of District Associations, a notice specifying the date on or before which claims and objections, should reach the registration officer will be sent out with them. This date will be not later than 10th September. The date on, and place at which the revising authority will sit for the disposal of claims and objections, will also be specified, and will be not later than 30 h September. The Revising authority mentioned above, consists of the registration officer and two members of the Committee of the Association.

To sum up, the important points to remember are (1) Electors must register at once, giving age, father's name (in the case of individuals) and address in full. (2) This information has got to be printed for informal pubication before 31st July, and (3) Formal publication takes place on or before 25th August.

The object of this note, therefore, is to ask you to DO IT PROPERLY and DO IT NOW.

THE INCORPORATED SOCIETY OF PLANTERS.

LANGUAGES EXAMINATIONS SCHEME.

It is felt that few managers and assistants have the time or the inclination to master the grammar of their estate labourers' language, yet they require to use the spoken tongue for the purposes of their business.

While success in the control and management of labour is chiefly a matter of personality and tact, ability to speak the language of coolies must be regarded as essential in the first instance.

It is recognised among employers generally that the study of native languages is a branch of a planter's work which heretofore has not been given the prominence or encouragement it deserves, and that in too many cases the knowledge of the language of the coolies working directly under a man can only be described as "a smattering."

In addition, what is generally described in the papers of an applicant for a planting appointment as "a good working knowledge" of a language is no guide to his degree of fluency. For this reason, the production of a Certificate of Proficiency in a language, as suggested in the regulations governing the examinations to be held by the Society, will be of the greatest use as a guide to the employer, and of real value to the holder.

The Society aims at establishing Central Examinations which are designed to stimulate the interest of planters in acquiring a thorough working and practical knowledge of the Tamil, Malayalee, Telugu, and Chinese tongues *as spoken and understood by estate labourers.*

That the matter, particularly so far are as Indian languages concerned, is an important one is shown by Section 73, page 10, of the "Report on the working of the Labour Department for the year 1913," which reads as follows:—

"Ever since 1912, comment has, as occasion offered, been made upon the fact that so few estate managers or assistants are able to speak the language of their labourers; the Deputy Controllers of Labour report but little improvement. The Deputy Controller of Labour, Klang, writes:—

'There has been a decided increase in the number of Telugu and Malayalee labourers employed on estates in these districts, but so far as is known to this department no European employer of such labourers is able to speak their language fluently. Hence complaints from the labourers employed on such estates are not infrequent and in one instance ignorance of the labourers' language resulted in the loss of nearly 200 Telugu labourers to an estate.'"

REGULATIONS.

1. Examinations in languages will be held in April and October each year in Kuala Lumpur, or at other centres.

2. All managers and assistants of pure European parentage are eligible as candidates. No residence qualification is required.

3. Candidates must, not less than six weeks before the date fixed for any examination, give notice of their desire to present themselves and state in which language, or, in the case of Chinese, in which dialect, they wish to be examined, and forward the prescribed fee.

4. The fee for examination in any one language payable by candidates who are members of the Society in respect of the first occasion upon which they notify their desire to present themselves shall be five dollars. In the case of non-members, the fee shall be twenty-five dollars for each occasion.

5. If after payment of his fee, a candidate withdraw his name, or fail to present himself for examination, no part of the fee shall be returned to him but the Council, or Examination Committee, may if they think fit allow such fee to apply to the next examination in the same language at which such candidate presents himself. Candidates entering more than once for any one examination will be charged half-fees on the second and subsequent occasions.

6. The Council shall give not less than ten days' notice to candidates of the precise day, hours, and place of examination.

7. A Certificate shall be issued to each person who has passed an examination to the satisfaction of the Examiner or Examiners. Such Certificate shall be signed by the Chairman and Vice-Chairman of the Society and countersigned by the Secretary, and shall have affixed to it the seal of the Society.

SYLLABUS.

1. Words and phrases in constant use.

2. Numbers:—Cardinal and ordinal numbers—multiples—multipliers—fractional numerals.

3. Time.—Divisions of time—hours of the day—days of the week—months of the year—miscellaneous expressions relating to time.

4. Money, weights and measures.

5. Rubber estate conversation: colloquial phrases and sentences. (Candidates will be called upon to converse with a strange native ignorant of English and to interpret between the latter and the Examiner.)

6. Vocabulary.

The Examination will be in two parts.

(A) Oral. (B) Written.

In (B), Romanised or orginal (Native) characters may be used, and words may be spelt correctly or phonetically: but extra marks will be given to candidates who use Native characters, who spell correctly and who show a practical knowledge of the leading principles of the grammar of the language in which they are examined.

By Order of the Council.

C. WARD-JACKSON,
Secretary.

KUALA LUMPUR,
1st June, 1920.

NOTES AND NEWS.

Act I of 1903 —A Gazette notification states that under section 4 of the Madras Planters' Labour Act 1903, the Governor in Council is pleased to authorise Mr. Percy Ernest Achard, Superintendent of Attikunnu Estate, Gudalur Taluk, to attest the execution of labour contracts.

A Planters' Union.—Following the lead of the F. M. S. planters, our Ceylon friends are agitating for an association or Union to protect the individual interests of planters in the Island. The Federated Malay States organization, known as the Incorporated Society of Planters is now a fait accompli and seems to have moothly covered the difficult path of its preliminary journey. The amount of vituperation and invective which appears to be necessary in establishing organisations of this nature is to be deplored, since thers is admtitedly no question of "fighting" anybody. The old methods of abusing the other side appears however to prevail.

The Language Question.

Incidentally our attention has been drawn to the Languages Examinations Scheme put forward by the I.S.P., details of which we publish in another part of this issue. This is a question which may well occupy the minds of planters in Southern India, particularly if we are going to recruit, in new areas, labour force to which the usual Tamil, Malayalam or Canarese as they are spoken, are strange tongues.

Ceylon Tea.—According to the "Ceylon Chamber of Commerce" Weekly Report, the amount of tea exported by rail *via* Talaimannar to South India was 2,070 lbs. for the week ending 28th June and 7,086 lbs. for the week ending 5th July. Following are some of the destinations and amounts :—

Ayyampet	... 1,000	lbs.
Trichur	... 4,150	,,
Kumbakonam	... 1,150	,,
Tinnevelly	... 1,020	,,
Cannanore	... 500	,,
Tiruppur	... 500	,,
Mangalore	... 300	,,
Ramnad	... 300	,,

The Annual Meeting.

We publish this week, the Secretary's notice calling the meeting, and the agenda. It will be noticed that Mr. Waddington requests members to send him the names of their representatives as soon as possible.

Accommodation at Bangalore.

Our previous warning was well timed for we have heard that the Hotels in Bangalore are all practically full. If this catches the eye of the proprietor of any Hotel or boarding house in Bangalore which still has vacant rooms, there are still a few delegates wanting accommodation during the planters' week, with whom we would be glad to place them in communication.

NOTES AND NEWS

Election of Planting Member.

Attention is drawn to the articles on this subject in another part of this week's issue. We trust Honorary Secretaries will take special steps to authorise Mr. Percy Pennington to enrol voters promptly and proper carrying out of the rules.

Ceylon Tea again.

It seems rather ludicrous that Ceylon Tea should be going to Tiruppur after the exhibition of last year when the Anamalais had a stall there. The stall was a costly affair and could only be justified by a vigorous following up campaign, without which it only served to advertise our competitors' produce.

The Agricultural Department, Travancore.

The appointment of a Mycologist by the Travancore Government was hailed with satisfaction in these columns some time back. This officer went to Pusa for training, and appears not only to have returned but to have got to work. We would have liked to know the name of the microbe, or is it a fungus or both, which he deals with in his leaflet, and something more of its life history.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

8th July, 1920.

The Land o'Cakes.

Dear Sir,—I should like to protest against the orgy of jokes against Scotchmen, in which you and your contemporary, Mr. Punch, indulge at times. The Scotch are a sensitive people, and understand no jokes, but their own, and these no one else in the world understands. I am not a Scotchman, not even a Nilgiri Highlander, (as I believe the aborgines of Coonoor are called), but I have some claims to be called a mountaineer. When I have crawled, on a heavy monsoon day, from old coffee, Block A, to young coffee, Block Z, at the top of yonder peak, "just a wee drapie o't" would be very acceptable. Other good things come out of Scotland shortbread, and "Edinburgh rock", and braw lassies and "nook a leekie," whatever that is. I cringe and haggis I do not include, the mere mention of the latter is enough to turn *mine*. Then there is Burns. I once read, the whole of Burns, in a saxpenny edition, with the help of a dictionary. Then, let me see, who else is there? Oh! Harry Lauder. A Scotchman (or is it Scotsman, or Scot, one is a deadly insult, and *vice versa*, and you must not say Scottie). A S. let me say once gave me Harry Lauder the whole of one evening, on the gramophone, and I suffered from acute melancholia for a week afterwards. Then there is Asquith. But I will not be polectical.

Yours ever,

(Signed) SASSENACH.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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CO-OPERATION.

One afternoon in March, 1889, a few farmers of Rockwell, Iowa, met together for a haver. They were there to make history, though they did not know this. What they did know was that the wheat and oats they grew brought them so poor a price that, even in good seasons, their profits were a negative quantity. Yet vast profits were being made. Who paid those profits? The Rockwell farmers figured that they did. The grain was bought by big concerns who owned the grain elevators. As a rule, one or two such concerns held the elevator monopoly along each railway line. They made the market, paid what they pleased, crushed all opposition, and pocketed the profits. The middleman waxed fat at the grower's expense. So the farmers determined on the step which made history: they decided to organize a Farmers' Co-operative Grain Elevator Association.

That handful of Yankee farmers builded better than they knew. They proved that the producer can only get honest prices for what he has to sell when he deals with himself, and to-day the greater part of the grain grown in the States and Canada is handled entirely by farmers' co-operative elevators.

Some years ago, the dairy industry in Australia was in a parlous condition. The middleman was rampant, and producers and consumers alike were mulcted. The dairymen felt that co-operation would be their salvation. They saw clearly enough that the right course was to own their creameries, make their own milk into their own butter, sell it for themselves through their own agents, and thus pocket the profits themselves, instead of being content with the meagre share the middleman allowed them. But farmers of all kinds are notoriously conservative, and the difficulty that faced the leaders of the movement was to induce the dairymen to co-operate. They did not feel equal to tackling the problem themselves, so they appealed to the Government. And the Government came to their rescue. Experienced men were sent round to explain the meaning of co-operative selling: to show the farmers just how to form co-operative dairying associations: how to incorporate: how to find the capital: how to establish common selling agencies: in short, how to deal with the consumer themselves. And the experiment was a huge success. The elimination of the middleman proved just as beneficial to the Australian dairy farmer as to the Iowa wheat grower.

Take next the California Fruit Growers' Exchange. Here is a Yankee account of this wonderful institution :—"Nearly two thirds of the State's "producers of oranges and lemons are federated together in this organi-"zation. It is their clearing house of information and facilities The "California orange and lemon crop, each season, would load a train of "refrigerator cars, about three hundred and fifty miles long, and almost "all of it is marketed through co-operative associations, of which this one is "a fine example. The California Fruit Growers' Association is composed of "seventeen district exchanges, which, in turn comprise in their membership "one hundred and fifteen local associations. The locals have from forty to "two hundred members each. Each member of a local takes stock usually "in proportion to his acreage or shipments. The association assembles the "fruit at a packing-plant, and grades, packs, and prepares it for shipment. "Often the associations pick the fruit for their members: some trim, spray, "and fumigate the trees. It is found that co-operation in this work helps to "solve the labour problem. The fruit is pooled for fixed periods, usually a "month, and each grower receives his proportion of the proceeds from each "grade marketed in the pool period. These local associations are strictly "mutual in character—they pay no dividends, earn no profits. When one "of them has a car-load ready, it markets it through the district ex-"change, whose function is to provide cars when wanted, to keep the "locals in touch with all information concerning the industry, and the "like. But the district exchange is not the final marketing authority. "The last phase of the transaction is entrusted to the California "Fruit Growers' Exchange, the head of the whole system. This "organization, like the subsidiaries, is a non-profit corporation, with a "capital of seventeen thousand dollars, contributed in equal amounts by "the seventeen district exchanges, each of which names one of the directors. "This central exchange gathers information about crop conditions, demand "in all markets, and daily sales, which is immediately transmitted to the "district exchanges, and through them to the locals. It maintains bonded "agents in all important markets of the country, to whom the products are "shipped, and by whom they are sold, always under the supervision of the "exchange. It handles all claims, conducts litigation, looks after general "transportation matters, and carries on advertising campaigns—in which, "at times, great sums have been spent in order to expand the market. It "receives all remittances, and accounts for all receipts to the growers

" through the district exchanges. The expense of its management is paid " by assessment of the district exchanges, proportionate to their business.

" The reader will perhaps recall a great advertising campaign some " years ago in prunes. Their palatability, healthfulness, and many methods " of preparing them attractively, were exploited in thousands of columns of " advertising in newspapers and magazines. Well, that was an incident of " the co-operative marketing of California fruit. There was a huge prune " crop that season : the market couldn't absorb it ; therefore the central " organization proceeded, through advertising, to buy a market, and succeeded " too ! California doesn't aim to suffer from over-production. It knows a " trick or two about salesmanship, and, through the unification of the " industry in this co-operative plan, it is able to make them work."

This marvellously organised exchange is only one out of many in California. The producers of raisins and dried fruit have their own " Farmers' Union," which pools the crop, and sells it as if for one man. The vegetable growers market their perishable crop through the " California Vegetable Union", which affords a wonderful example of co-operative management. The walnut growers do their business through their own co-operative association, which assembles, grades, pools, and sells the nuts. Before this association was established, no grower could afford to ship save in carload lots, and many small growers could not raise such quantities. Now, with the nuts pooled, the small grower occupies as strong a position as the large grower. This association has greatly increased the profits of members, cut out the middleman completely, and yet has added nothing to the consumer's cost.

In Maine, potato growing is a staple industry. Here is a description of the methods employed by the " Aroostook Potato Growers' Association" :—

" This is organized to market the product of about seven hundred " producers, and to buy supplies for them direct from manufacturers. The " potatoes are pooled, and all shipments made in car loads as a rule directly " to wholesale or large retail dealers. The association aims to perform the " service of the shipper, commission man, broker, and wholesaler ; and to " save the charge that would be involved if all these agencies were employ- " ed. But for this plan of car load shipments, which would be quite " impossible if the growers operated independently, the long distance which " separates Aroostook from the leading markets would make the business " practically impossible. A large economy is effected both in selling the " potatoes and in the purchase of great quantities of fertiliser, for which a " single order, sufficient to meet the requirements of all the association " members, is placed annually."

The idea, which I know is held by some planters, that co-operation is a pretty theory which would fail in practice, gets short shrift with the wide-awake American producer. There, co-operative selling has been such a proved success that we find it adopted by almost every industry. I could cite the New England Cranberry Sales Company in Massachusetts, the Rocky Ford Melon Growers' Association in Colorado, the Florida Citrus Exchange, and numberless others, but, as all these co-operative associations work on the same broad plan, which has already been outlined, I will not go into details. Market gardeners and "truck" growers throughout the States have their co-operative organizations, and here is what the Manager of one of these—the Monmouth County Farmers' Exchange, of Freehold, New Jersey says of his association :—" Under the old individual system " of selling, there were five dealers to handle the goods between the

" producer and the consumer. The farmer sold to a resident buyer, " who sold to a jobber in the nearest city, who sold to a jobber in a distant " city, who sold to a wholesaler or commission merchant, who sold to a " retailer, who finally sold to the consumer. Each of these, naturally, had " to have his pay for his services, and his profits on the transaction. The " farmer received, on an average, about forty cents of every dollar paid by " the consumer. Concluding that they wanted a little more of that dollar, " the farmers organized their co-operative exchange, and sold directly to " the wholesaler or the large retailer, thus eliminating three or four of the " middlemen. If the consumers would organize co-operative buying ex- " changes, and purchase direct from the producers' exchange, they would " eliminate the wholesaler and retailer, and effect a saving at their end " corresponding to that which the producer has accomplished at his end."

Mutatis mutandis, does not that describe the present position of the tea, or coffee-planter, out of whose slender profits four or five unnecessary middlemen take a big bite before his produce reaches the consumer? And, does it not show how easily he could better his position if he would only wake up and cut these middlemen out?

Take, again, the experience of the Growers' and Shippers' Exchange, of Rochester, New York:—" This exchange has been highly successful in " standardizing retail prices on all farm products, by using a package small " enough to pass through the grocer's or dealer's hands without losing its " identity through being divided into smaller packets for the consumer. " Thus, apples are marketed in pasteboard cartons, holding a peck each, " eight of which are put in a crate. Potatoes are shipped in fifteen-pound " burlap, or paper sacks, and grapes in four-pound baskets. The experience " of this exchange is that producers get an average of thirty-five cents out " of the consumer's dollar when they ship individually, and without using " the small parcels and standardized brands, whereas, when shipments are " made in small packages and properly labelled, the producer gets as high " as from seventy to eighty cents out of that dollar."

More words of wisdom for the Indian planter to digest.

What co-operation can do for the consumer, is shown by the gigantic organization into which the unpretentions " Rochdale experiment " has developed. The history of that movement is a romance, but the consumer can be left to hustle for himself.

What is the moral? 'Who runs may read', and every planter can apply it. If the present crisis in the tea industry, and the periodical crises through which coffee has passed in the last twenty years will not make him realise that, in co-operation, and co-operation alone, lies his hope of salvation, he is past redemption. If he *does* decide to adopt co-operative selling, let him remember that he will not embark on a risky experiment, but will follow the road by which—as experience the world over has proved—the producer can stabilise his industry, and secure for himself the profits to which, as producer, he is rightly entitled. But, if he is content any longer to sit with folded hands and allow the middlemen to absorb those profits, he is—as I have said—past redemption, and will only have himself to blame if he continues to be a puppet, dancing as Mincing Lane pulls the strings. I see that " Control of Production of Tea" figures on the agenda of the coming U. P. A. S. I. Meeting. One small step in advance would give us Co-operative Sale, and a final solution of our troubles. Will we always be too conservative, too timid, too blind (each man can choose his own word) to take that step?

SOPHOS.

COORG PLANTERS' ASSOCIATION.

Proceedings of the Annual General Meeting of the Coorg Planters' Association, held at the North Coorg Club, on the 9th July, 1920 at 10 a.m.

PRESENT.—Messrs. Macrae, Dickinson, Scholfield, W. R. Wright, Maurice, Trelawny, Nicolls, Grove, Hume, Tipping, Ball, Egerton, E. L. Mahon (in the Chair), and A. J. Wright (Hon. Secretary.)

Before the meeting formally opened the Chairman moved a vote of condolence to Mrs. J. S. Trelawny and her sons, on the sad and sudden death at Mercara, of Mr. Trelawny. (All standing.) Mr. H. R. Trelawny replied on behalf of his mother.

The Secretary then read the notice convening the meeting. The minutes of the previous meeting were read in part, and the remainder taken as read and confirmed.

The Glen Lorna Tea Co. Ltd., was admitted a member of the Coorg Planters' Association and United Planters' Association, subject to the acreage given being confirmed.

The result of the ballot for Office Bearers was as follows :—

NORTH COORG COMMITTEE.	SOUTH COORG COMMITTEE.
W. E. Dickinson	F. Macrae
A. E. J. Nicolls	N. M. Scholfield
W. R. Wright	P. G. Tipping
A. F. Magniac	A. H. Jackson
W. Egerton	H. T. Shaw
A. S. L. Grove	E. L. Mahon

President.—W. M. Ball.

Honorary Secretary.—A. J. Wright.

General Committee, U. P. A. S. I.—P. G. Tipping, A. J. Wright.

Delegates to U. P. A. Annual Meeting.—P. G. Tipping, E. L. Mahon.

The Secretary then read his report as follows :—

Mr. Chairman and Gentlemen :—In the absence of our worthy President, it falls on me to give a brief *resume* of the subjects that have occupied the Association during the past year, and of others we are still discussing.

GRAIN AND FOOD STUFFS.—You will all know that the efforts of our Commissioner to ease the situation were of no avail, and the undue export of

paddy went steadily on, to the cost of the cooly population. Two indifferent seasons brought all commodities to the verge of famine prices. We have seen this year a bumper?paddy harvest reaped, with prices no lower than before, and our labour hard set to obtain food, let alone clothing.

ACCOUNTS.—These have been circulated, and are open to criticism. Referring to the Coorg Planters' Association, you allowed me to take a sum of Rs. 2,050 (with interest 102-7-0—Rs. 2,152-7-0) from the S. O. fund on condition it should be repaid. I now propose replacing Rs. 2,150 to that fund. Besides this, there is another amount of Rs. 6,825, which will mature on the 3rd prox. with interest at 5%, say Rs.7,166 plus the above Rs. 2,150, so the S. O. fund stands at Rs 9,316.

There is a balance of Rs. 1,194-4-9 to carry forward. In my call for the U. P. A. 2nd year 1st. qr. subscription, I made a note that the Coorg Planters' Association subscription would be decided at this meeting.

To the 31st March last, our acreage was 14,904. One member of 200 acres resigns. Another has sold his estate, and 150 acres are lost. Against this, I have an application from another estate to come in with 450 acres, (subject to confirmation of acreage). So the Association is better off by 100 acres, or, roughly a total of 15,000 acres.

Instead of last year's 3 annas per acre, I think the Coorg Planters' Association can get along on 2 annas. This should bring in Rs. 1,875 which, with the balance in hand make Rs. 3,069. Some Rs. 400 will have to be paid for incorporation, a non-recurring item.

The U. P. A. accounts on the same date show a balance still due of Rs. 419-8-0. This I have since reduced to Rs. 133.

In this connection, will members kindly pay all sums direct to the Secretary of the Coorg Planters' Association, as under Incorporation he is responsible for receipts and disbursements.

TRANSPORT is still the most outstanding subject before the meeting, and will doubtless be fully gone into.

WAR MEMORIAL.—I have obtained certain illustrations, and suggest a small committee should be formed to go into designs and figures as was suggested at the last meeting. I know you will agree with me that this should not be confined only to members of the C. P. A., but to everyone of us in Coorg.

LABOUR ACT.—Each member has a copy of Act XIII of 1859, and its amendments, side by side. I suggest members make notes of various rulings; they should be interesting literature in the days to be.

INCORPORATION.—This needs but the adjustment of one or two technical details before the articles are returned for registration.

THE PLANTERS' WAR FUND.—This subject has led to some correspondence. I consider those who have subscribed the most should have the most right to say what should be done with the fund, after its object has been fulfilled.

Among other subjects on the agenda are : –

The Planters' Benevolent Fund.

The Arms Act.

The Storing of an Emergency Ration of Petrol.

Rewards for coffee stealing.

U. P. A. Agenda.

I now tender my resignation.

(Signed) A. J. WRIGHT,
Honorary Secretary, C. *P. A.*

Mr. Ball moved a hearty vote of thanks to the Secretary for the trouble he had taken in getting the subjects up, and, both to save time and to give members an opportunity of criticising any points to be discussed, suggested that the President's speech and Secretary's report be published beforehand in future.

The Accounts, which had been previously circulated, were accepted and passed. At the Secretary's request, it was moved that all monies should be paid direct to the Honorary Secretary.

WAR MEMORIAL.—Resolved. As regards the C. P. A., we do as was suggested at the last meeting, leaving the U. P. A. question to be discussed at the annual meeting in August.

ROADS, COMMUNICATIONS AND TRANSPORT.—As to past happenings, the Secretary referred the members to the P. C. as to what was important at the moment. He referred to the audience at Mercara with H. E. the Governor of Madras, in which he had kindly said he would interest himself with the subject as it affected Coorg and Madras, and do what was possible to further the project of roads.

As far as the Coorg Government is concerned, we are definitely promised that the Coorg outlet road to the frontier will be ready in time for the transport of coffee, in spite of the many difficulties to be evercome.

The Madras Government, for their part, inform us that estimates have already been prepared for the two bridges nearest Coorg, to carry 10 ton rollers, which ought to suit the weight we are likely to want; other bridges are being estimated for, and the Madras Government propose to address the Government of India for a grant towards the cost incurred, on the ground that it will be of considerable interest to Coorg.

The Malabar Chamber of Commerce has also been active with the Madras Government, and have sent a resolution passed at one of their meetings, with copies of correspondence. Before the best type of Motor lorry can be decided on, they have asked the Coorg Planters' Association to obtain information, especially on the Ghaut section between Verajpett and Kulumpoya : (a) Total weight that the weakest bridge will bear, (b) The sharpest curve on the Ghaut section. This information is being collected, and will be available at an early date.

The Coorg Planters' Association had concentrated their attention on the Coorg—Tellicherry road, on the ground that we were the more likely to

obtain one thing, definitely asked for, than more than one, and from Tellicherry it was possible to rail either way.

In the discussion that took place, several members asked also that the Coorg—Mangalore road be made usable for lorry traffic. This was approved of.

On this, the following resolution was moved and carried :—

"In view of the ever increasing shortage and difficulties of cart "transport, with its paralysing effect on all industries, and the "fact that the Government of Coorg have already taken in "hand the putting in order of our main outlet roads to the "West Coast and promise that these will be ready in the course "of a few months :—

"This Association requests that the Imperial Government be approa- "ched through the usual channels, and requested to have the "Madras sections of the Mercara—Tellicherry and Mercara— "Mangalore roads put in such order as will enable us to "establish mechanical transport, which has been held up since "1908 owing to the weakness of the bridges.

"This Association respectfully requests that the extreme urgency of "this vital matter be most strongly represented."

The Secretary was requested to send a copy of this resolution to the U. P. A. S. I. and to the Malabar Chamber of Commerce, for their information and support.

INCORPORATION OF LABOUR RULES.—Rule 3 is to read as amended by the U. P. A. Circular. One or two small alterations were recommended in the articles and memorandum.

THE U. P. A. S. I. AGENDA.—It was decided to leave this to the new committee that was to meet at an early date.

PLANTERS' WAR FUND.—It was suggested that, provided no further applicants were likely to come forward for assistance, that any balance should go towards the

PLANTERS' BENEVOLENT FUND.—As regards this, if this fund is put on a sound basis and no payments be made outside the scope for what the fund provides, this Association will whip up for subscriptions, considering the object for which the fund was started for is a worthy one and deserving of support.

STORING OF EMERGENCY PETROL.—Mr. Tipping spoke to the following resolution :—That this Association approach the Commissioner of Coorg with a view to ascertaining whether something cannot be done to ensure a reserve supply of petrol being kept against possible emergencies, and to indicate that members of this Association would be glad to assist in any steps in this direction. This was supported by Mr. Mahon.

All members cordially agreed.

Among the other papers read were :—

THE ARMS ACT.—Rewards for the conviction of coffee thefts, and the address to H. E. the Viceroy, and Deputation.

The meeting terminated with the usual vote of thanks.

(Signed) W. M. BALL,
President.
(") A. J. WRIGHT,
Honorary Secretary.

NILGIRI PLANTERS' ASSOCIATION.

At an extraordinary General Meeting of the N. P. A., held at the Collector's Office, Ooty, on 1st July, 1920, with Mr. A. K. Weld Downing in the Chair, the following members were present:—Sir Robert Stanes, Mr. A. S. Dandison, Mr. P. Beaver, Mr. W. A. Cherry, Mr. D. Elkington, Mr. G. F. W. Elwes, Mr. Leslie Rogers, Mr. J. B. Vernede, Mr. W. B. De'Courcy, Mr. Reilly, Mr. Hercus, Mr. Burke, and Mr. St. John Ives. Visitor:—Mr. F. J. Bryant.

Mr. Downing having read the notice convening the meeting, Mr. Elwes proposed that a paid Secretary be employed. This, Mr. Dandison pointed out, would necessitate the altering of the rules, which could not be done, save at an Annual General Meeting. Mr. Elwes' proposition was, therefore, ruled out of order.

Mr. Vernede, at this point, solved the matter by stating that Mr. A. N. Hearn, of Sutton Estate, would take up the duties. The latter was then duly elected Honorary Secretary.

The Chairman said he would like to pass a hearty vote of thanks to Mr. Vernede for having been the means of helping the Association out of its difficulty. Carried with acclamation.

The next business was the election of office bearers. Mr. Downing was elected Chairman, with Mr. J. Beaver Vernede as Vice-Chairman, and the following committee:—Sir Robert Stanes, Major L. L. Porter, Mr. W. Deane, Mr. J. Harding Pascoe, Mr. W. A. Cherry, and Mr. G. F. W. Elwes.

INCORPORATION.—The Articles of Association were placed on the table, and the Chairman pointed out that there was a slight difference in the wording of the printed forms now before the meeting as compared with the original draft he had sent to Coimbatore. After some discussion on the subject, it was proposed from the Chair that the articles as drawn up by the Head Office be accepted, this was carried unanimously, and the articles signed by seven members present.

SUPPLY OF PETROL.—Mr. Downing informed the meeting of the steps that were being taken by Coonoor to obtain a supply, and said that, at a Committee Meeting, held at Coonoor on 26th June, he had been provisionally elected to represent the N. P. A.; he asked the meeting to either confirm this or else if they so desired elect another member. Mr. Downing's seat on the Committee was confirmed.

The Collector, being present, was asked to address the Meeting. He replied that he had nothing fresh to communicate, but advised all to pull together, with the assurance that he would do all in his power to help them.

With votes of thanks to the Collector for his presence and for the use of his room for the meeting, and to the Chairman, the meeting terminated.

(Signed) A. K. WELD DOWNING,
Chairman, N. P. A.

INCREASING THE LABOUR FORCE.

Yes, Mr. Editor! The whole of the *Planters' Chronicle* catches my eye every week.

With reference to the letter on the above subject from "X," in your issue of the 10th July, I have not found that young married women postpone motherhood. On the contrary, perhaps they have children too soon for their own health's sake and for that of the child. It is a religious duty among Indians to have children as soon as possible, especially a son. From the economic point of view, children are desired, they earn wages quite young, and are a provision for the time when the parents can no longer make a living wage. There are many aspects of the question with which I have not time to deal, one is that babies are born to a woman at an age when the sense of responsibility has not yet awakened in her. The welfare of the infant is a rightful charge on the employer of labour.

FOOD.—The best nourishment for an infant is drawn from it's mother's breast. Time should, therefore, be allowed for suckling, and shelter provided, where this sacred duty can be performed. A predecessor of mine on this estate built a *kutcha* shed in every field for the purpose. Being fixtures, they were considered too far from the work in some parts of the field by pluckers, and were not altogether popular. From the employer's point of view they were a nuisance, because every man, woman and child used them as loafing places, on the slightest excuse. They were, therefore, abandoned. From my friend and neighbour, Mr. J. C. Swayne, I got the tip of supplying both pluckers and weeders with a small green canvas paulin about 8' x 5', which is taken to the field every morning and brought back to the store every evening. It can be pitched in any convenient part of the field. There are 4 such, 2 on the upper divn, and 2 on the lower divn. of this estate. Babies are left in them, in charge of a granny charged to plucking or weeding as the case may be, and mothers visit their infants "on demand." From the time they are weaned, to the time they can weed, children should be fed at an estate kitchen, attached to the hospital or dispensary, if possible. At least one real belly full should be given to each such child at estate expense. Two, as on some estates, is better. There is a marked change for the better in the condition of the children on this place, since feeding was started on the 1st of April, 1920. An allowance of rice to the parents for each child is not sufficient. The children don't get it, or, at any rate not all of it. The trouble of supervision and the expense is great, nevertheless the duty should not be shirked.

MATERNITY BONUS.—This is the point of "X's" letter. A cash payment for every birth is not advisable, but a payment for every child *alive* at the end of the contract period should be made, whether the parents are in debt or not. Rs. 5, coupled with the honour it entails, is sufficient. It is a disgrace to lose a baby, one cannot rub it in to a bereaved woman, but an occasional remark to a nursing mother "don't forget, you've got to keep it well" has a good effect, I really do believe.

MIDWIFE.—I need not dwell on this obvious necessity, and, of course other medical arrangements should be good. The "Hookworm Campaign" should be as compulsory as we can voluntarily make it. We can do little good on estates unless Government apply it in the villages,—and, if Government apply it in villages we must back them up on estates.

We cannot shut our eyes to this method of increasing our labour force, for that is what increased efficiency means,

AYLMER MARTIN.

THE RUBBER INDUSTRY AND THE WAR.

By B. D. Porrett.

In considering the share which this country contributed to the final downfall of the German-Austrian cause, it is impossible not to include reference to the plantation section of the rubber industry, since had it not been for the foresight and initiative of the Indian Government of some 30 years ago, and the subsequent lavish support of British capital, the supremacy which the Allied forces enjoyed in respect of all the many naval and military articles of equipment of which rubber articles are components must have been endangered. In fact, rubber furnishes a striking example of the advantage accruing from the possession of a raw material within the Empire and independence from outside sources of supply.

It is unnecessary to go into details of this development of the plantation industry in Ceylon and Malaya, and it will suffice to point out that, in 1914, of the world's supply of raw rubber, amounting to 120,000 tons, no less than 71,000 tons was produced within the Empire, As the consumption of the British rubber manufacturers at this time was only 18,000 tons, not only was their supply of raw material secured,* but, in addition neutral manufacturers were dependent on the Empire for the means to continue their trade. To this fact in a considerable measure we owe the success of blockade and embargo on the import of rubber and rubber goods into Germany. Further, in return for adequate supplies of rubber, and unrestricted export facilities to all parts of the Empire, the rubber dealers and manufacturers of America undertook that no material, raw or manufactured, should be exported directly or indirectly to enemy countries, where its need was from the first acutely felt. This undertaking appears, on the whole, to have been faithfully observed, and although American manufacturers profited to good purpose in home and foreign markets, while the British manufacturers' output was almost entirely monopolised by war supplies, it must be a source of satisfaction to the producer and manufacturer to know that the military and naval resources of our enemies were thereby much hampered in the production of many important and essential articles of equipment. Not only has the Federated Malay States contributed —largely from the revenues derived from rubber—a super-dreadnought (the "Malaya")to the fighting units of our Fleet, but the rubber trade has amply met every requirement of rubber goods for our army, navy, and auxiliary forces, and by its predominant position as a producer has been able to deprive our enemies of one of the most important materials necessitated by the latest developments of science and engineering.

From the moment when Germany realised that the duration of the war was to be protracted the disadvantage due to her dependence on outside sources of supply for rubber and cotton was recognised, though her available stocks were carefully husbanded † and efforts made to procure

* The supremacy of the Allies in respect to rubber was intensified by the fact that London and Liverpool were in the early stages the chief distributing centres, so that the British manufacturers were, as a result of the heavy stocks held, in a great measure secure against stoppages by blockade.

† Considerable stocks of rubber were no doubt secured as a result of the capture of Antwerp in 1915, but quite sufficient to meet the needs of the German and Austrian trades which before the war together consumed 14,000 tons per annum.

satisfactory substitutes; with rubber these efforts met at the most with but partial success, and while satisfactory ebonite for electrical purposes is claimed to have been manufactured from a synthetic product available, the lack of the natural material seems to have precluded the manufacture of the many soft rubber articles for mechanical purposes—more especially pneumatic and solid tyres which are called for by recent developments of mechanical transport and æronautics.

Such being the condition of our enemies in respect of rubber supplies, it is perhaps well to turn to the other side of the picture and consider in what ways the rubber trade contributed actively to the Allied cause.

As in most other industries, the personnel of the rubber trade made a full contribution of men to the fighting forces. For many years women had been largely employed on lighter work, and when the call for "dilution" came this industry was among the first to respond. Notwithstanding the departure of practically every able-bodied man of military age, the efficiency and output of the trade was little if at all impaired, and throughout the period of the war the requirements of the country were placed by British rubber manufacturers before the wants of their home or foreign trade, a circumstance of which, as has been mentioned, our American competitors did not fail to profit.

The war work of the rubber trade perhaps does not lend itself to spectacular treatment in the same way as that of some industries. Although of the greatest importance by reason of the enormous variety of the uses—many familiar, some novel—to which rubber has been put, it is somewhat difficult to give a just impression of the wartime activities of this industry.

To begin with, the branch of the industry concerned with the product variously known as hard rubber, vulcanite, or ebonite may be briefly considered. As might have been expected, large quantities of sheet, rod and moulded ebonite were needed for various electrical purposes, switchboards, wireless telegraphy installation, field telegraphs and telephones, whilst the development of the British-made magneto for aeronautical and motor use was rendered possible by the production of a high temperature insulating material to replace the German "Stabilite" hitherto employed. The rapid development of the submarine and æroplane, moreover, call for the production of accumulator cells of special design and quality capable of withstanding exceptional conditions of usage.

The more important section of the industry employed in the manufacture of soft rubber goods can now be considered. The introduction of trench warfare in the early stages of the war necessitated special equipment, and the rubber trench boot was devised to protect the troops from the water. In one factory alone these were manufactured at the rate of about 60,000 pairs per month, and the total delivered by the Scottish rubber foot wear manufacturers alone must together have totalled 1,500,000. Enormous quantities of rubber hose, moreover, were supplied for pumping out the water from the trenches. The subsequent introduction of poison gas attacks by our enemies resulted in an urgent demand for some form of protection to enable our troops to withstand this novel form of warfare. As a result the rubber-fitted gas mask, which gave satisfactory protection so far as the respiratory organs were concerned, was soon evolved; and when it was found necessary by the Allies also to resort to the use of gas the rubber trade met the demands for

a means to ensure the even distribution of the gas from the cylinders in the trenches. The amount of rubber hose employed for this purpose must have been well over a million feet, and though rapidly destroyed by the action of the gas, it was found much more convenient in use than the lead piping used by the Germans for a similar purpose.

It is common knowledge that motor transport and aeronautics played a vital part in all the military operations, and that consequently vast quantities of solid and pneumatic motor tyres and aeroplane and motor cycle tyres had to be obtained. No trade statistics are available to show the magnitude of these supplies, but it may be gauged from the fact that during the latter stages of the war when private motoring was practically abolished in Great Britian owing to petrol restrictions, the whole output of every motor tyre factory throughout Great Britain was barely adequate for military needs.

The surgical branches of the industry were working at high pressure throughout on the production of such articles as sheeting, jaconet, surgical gloves, drainage tubing and the like. It must be a source of satisfaction to those engaged in the rubber industry that so large a proport on of their efforts was directed to the production of articles destined to promote the comfort and the safety of those in the fighting lines and to the alleviation of the sufferings of the wounded. Camp sheets, trench boots, hose, respirators and safety collars for those exposed to submarine attack are examples of the former, and ambulance tyres, hot water bottles, surgical requisites of the latter. It may be mentioned as an illustration of the work of this branch of the trade that from one factory alone 20,000 camp sheets were supplied weekly for a period of over two years, or a total del very of no less than two million sheets in all.

The enormous dimensions of the fighting area called for as unprecedented system of telegraphic and telephonic communicat on for which insulated wires and cables had to be provided, and the huge supplies of insulated material needed taxed the capacity of the cable industry to its utmost limits, and necessitated large extensions to the plant which provided for the pre-war requirements. Unfortunately, here again no trade statistics are available as to the vast quantities of various types supplied.

This necessity for co-ordination between headquarters and the fighting units and the remarkably increased employment of artillery gave rise to the development and extensive use of the "sausage" or Caquot kite balloon, which was subsequently largely employed in the navy (in conjunction with small airships of the non-rigid type) as a defence aga nst submarine attack. The production of balloon fabric—which prior to the war had been a speciality of a few European rubber manufacturers—consequently assumed the posit on of an important branch of the trade, as may be guaged from the fact that one Br.tish factory was gas-proofing sufficient material to construct 25 kite balloons per week, represent ng approximately 25 miles of two-ply finished material weekly, and a yearly production of over 1,200 miles in pieces of from 50 to 100 yards in length, each of which had to be carefully examined by tested and accurate scientific methods for weight, strength, and gas tightness.

Scientific investigat ons into the effect of ultra-v olet light on rubber resulted in the discovery of a method for prolonging the effective life of the rubber gas-retaining medium in balloon fabric for a period vastly in excess of that hitherto obtained. This achievement, which is specially

important in connection with the development of æronautics in tropical countries, will serve as a token that the necessity for research was not being entirely overlooked by the British rubber trade even under the stress of war conditions.

The foregoing rough outline of war activities of the British rubber industry would be incomplete without some indication of the difficulties encountered and overcome in obtaining these results.

Though the supply of crude rubber was at no time seriously jeopardised, the processes of its manufacture necessitated the employment of many auxiliary materials in order to obtain the variety of products which were required by the many different uses to which rubber was put. The outbreak of hostilities and the later depredations of submarines involved the reconsideration and modification of many processes and mixings which long use had endowed with the odour of sanctity. Up to 1914 the chemist had played but a small part in the economy of the rubber works generally. Thenceforward the manufacturer had to invoke his aid to solve the novel problems presented by. war conditions. Among the first effects of the war was the partial or complete interruption of the supplies of several of the manufacturers' most important compounding ingredients. Among such must be cited barytes, zinc, oxide, lakes and pigments, antimony sulph de French chalk and cotton tyre ducks. The barytes supply of the rubber trade has in the past been practically a German monopoly, the colour, texture and price of the foreign supply being apparently such as to render the trade unattactive to the owners of the British deposits of this mineral. Supplies of home origin and manufacture were soon available after the outbreak of war, but it would be idle to contend that even after five years they compare as a whole with the standard of quality shown by pre-war supplies. The matter of the subjugation of the world's zinc supply to German influence prior to the war has already been the subject of ser ous consideration, but in the case of the rubber trade the out-break of hostilities and the German invasion of Belg um resulted in the elimination of one of the most important sources of manufacture of zinc oxide, namely, the *Societe de la Vieille Montagne*. Whilst the increased output resulting from the developments of the New Jersey Zinc Co. of America after a few months made up for the initial shortage of this important compounding ingredient, and fair quantities of British manufacture became available, there still would seem to exist sc-pe for development in our home supply with a view to a greater degree of independence of foreign sources and also to meet the needs of the celluloid, pa nt and related industries.

The interruption in the supplies of German colours and pigments was in a measure compensated for by the alteration in industrial requirements and the development of a less critical spirit on the part of the consumer. The development of home supplies, though slow has on the whole been satisfactory, so that with the exception of antimony sulphide comparatively slight difficulty has been experienced with this class of supplies. A preponderant proportion of the rubber manufacturers' pre-war supplies of this pigment was derived from two sources, one German and the other French; hostilities naturally at once cut off the former, whilst the occupation and industrial destruction of the North of France soon elim nated the latter, together with the supplies of motor duck woven in the Lille district. A limited home supply of this important red figment has throughout been available. New manufacturers, however, have notbeen uniformly successful in obtaining either the requisite purity of tint or stability to hea

with the result that since 1914 rubber manufacturers have frequently experienced difficulty with red goods depending on this pigment for their colour. With the shortage of shipping resulting from military requirements and the losses due to submarine attack, the problems confronting the rubber manufacturer and chemist were intensified The supply of all imported materials became precarious. and such staple ingredients as cotton, litharge, lamp-black, Russion shoe waste, paper, sulphur, solvents, became affected, whilst the necessity for the conservation of oils and starch for foodstuffs intensified the difficulties in practically every section of the trade. Although some inconvenience resulted to civilian supplies, the difficulties were in the main surmounted, and no diminution either in output or quality occurred in the goods destined for war purposes.

The foregoing survey, though necessarily superficial, should be enough to show that the rubber industry can justly look back with satisfaction on its war record. Though it has emerged without any radical alteration in its general technical procedure, in common with other ndustries, the experiences of the war have served to dispel many prejudices and to broaden the views generally of those in positions of responsibility. The institution of associations by various sections of the trade, and the recent formation of a research association, point to the existence of a spirit of co-operation greater now than in the past. and to a growing appreciation of the need for scientific assistance in the industry.—*Journal of the Society of Chemical Industry.*

NOTES AND NEWS.

The London Hospital Fund.

We have received a grateful letter of thanks from Viscount Knutsford for the small contribution we were able to send him. In addition to this, we understand Mr. C. Fraser, of Paralai Estate, has collected some Rs. 150 from Planters in the Anamalais.

The Planters' Benevolent Fund.

The receipts for June and for the first three weeks of July, combined, amount to over Rs. 500 which is better than usual, but still leaves something to be desired.

Cochin Harbour.

The first meeting of the Committee appointed to consider and report to Government, on certain points connected with the development of the Cochin Harbour, met at Cochin on the 15th :—

There were present Mr. E. F. Thomas, I. C S., Collector of Malabar, in the Chair, Capt. E. W. Huddlestone, C. I. E., C. B. E., R. I. M., Presidency Port Officer; Mr. H. H. Hood, Collector of Customs, Madras; Mr. R. C. Bristow, Harbour Engineer to Government; Lt. Commander A. E. Godfrey, R. N. R., Port Officer, Cochin; Rao Bahadur T. Vijayaraghava Acharya Avergal, the Dewan of Cochin; Mr. S. S. Koder, Chairman of the Municipal Council, Cochin; Mr. A. W. Acres, General Traffic Manager of the South Indian Railway Mr. E. H. Cooper, Chairman of the Chamber of

Commerce, Cochin ; Mr. W. T. Anderson, Secretary of the same ; Mr. H. Waddington, Secretary of the United Planters' Association of Southern India ; Mr. W. L. Bruce, Senior Manager of the Madura Company ; Rao Sahib A. L. Shirgaokar Avergal ; Mr. Hajee Essa Hajee Moosa, and Mr. Latif Unar Sait, Merchants of Mattancheri.

Mr. Bristow was unanimously elected Secretary to the Committee, and Messrs. J. E. Pitcairn, of Messrs Peirce Leslie and Company, and Mr. C. W. Cole, Agent of the Bank Madras were co-opted as additional members of the Committee.

Sub-Committees were appointed to report on different details of the scheme, and the next meeting of the Committee, to receive the reports and further consider the question, was arranged for the 16th August.

The Coffee Market.

It is not much use trying to gauge the possibilities of this market, when an authority in London states plainly :—'The outlook for the future position is still very vague, and the entire absence of demand from the consuming countries on the Continent, combined with dear money over here forcing small holders to dispose of their stocks, makes it absolutely impossible to foresee the position a week ahead."

Co-operation.

Our correspondent "Sophos" will look in vain for his letter on co-operation in our correspondence pages. He will find it, however, in the place usually occupied by our leading article, where we trust it will receive all the attention so important and vital a question deserves.

Oil from Rubber Seed.

The current number of the "Bulletin of the Imperial Institute" (John Murray) discusses in detail the possibility of utilising the large quantity of seed now being produced on rubber plantations. In the early stages of the rubber industry in the Middle East, the seeds were mostly used for raising plants for making new plantations, but, as there are now at least 1,000,000 acres under rubber trees, the quantity of seed available is much in excess of the planting requirements. It was shown many years ago, by investigations made at the Imperial Institute, that the kernels of Para Rubber seeds yield a large amount of oil similar in properties to linseed oil, and that this oil can be used for paints making and other purposes for which linseed oil is employed, whilst the cake which is left after the oil has been removed from the kernels is an excellent feeding-stuff for live stock. Until the last year or two, the oil had only been produced on an experimental scale, but at least one oil mill is now established in Malaya for crushing rubber seeds, and small commercial consignments of the oil have been sold recently in this country and in Marseilles at good prices. Whether it will pay the planter to supply the seeds to an oil mill depends very largely on the cost of collection, a point on which experts differ. In view of the present necessity for the exercise of rigid economy on rubber estates, and of the enormous demand for oils and feeding stuffs, it is highly desirable that serious efforts should be made to organise the collection of Para Rubber seed wherever it is likely to prove at all profitable, and so prevent waste of material which is undoubtedly of considerable value.

Emigration.

Dealing with this question, a writer in "*Production*" states that India is perhaps the one country with a population capable of sustaining a steady outflow for several years ; she may be said to be in some respects in need of an outlet, and when her attention is turned to Canada and Australia in this respect, the policies, which she cannot see are imposed upon those countries by their own conditions, appear harsh and unreasonable, and she questions fiercely whether citizenship in the Empire is a mere expression, and has no connotation in fact.

Labour Laws.

We are not the only ones to be concerned over recruiting methods. In java, planters and employers of Labour generally, appear to be endeavouring to throw off the incubus of the professional recruiter. The Government proposes extensive modifications of the cooly-ordinance at present in force.

Kanan Devan Hills Produce Co.

The annual report of the above company shows that a total profit of £250,352 was made on the year's working. To this sum has to be added £38,238 carried forward from the previous year, making a total credit balance of £288,591. After deducting £16,500, half-year's dividend on the cumulative preference shares already paid, and writing £25,000 off the Bench expenditure suspense account, a balance of £247,901 is left available. Out of this sum, it is proposed to pay a dividend of 10 per cent. on the ordinary shares, which will absorb £75,000, and transfer £20,000 to the insurance reserve account, which leaves a balance of £135,591 to be carried forward after deduction of the dividend paid in December last. The yield of rubber during the year amounted to 76,050 lb., whilst 260,469 lb. of Cinchona bark was harvested.

Amalgamated Tea Estates.

The directors of the Amalgamated Tea Estates Company, Ltd., announce a net profit of £144,643 for the year, to which has to be added £69,396 carried forward from the previous year, making a total credit balance of £214,040. It is proposed to pay a dividend of 10 per cent. on the ordinary shares, which will absorb £47,835, and transfer £20,000 to the general reserve account. After deducting the amount already paid in dividends on the cumulative preference shares, and writing £4,480 off for block expenditure, etc , a balance of £115,718 is left to be carried forward. 183,301 lb. of rubber was harvested during the year, as compared with 170,618 lb. in 1918. The average price realised for it was 2s, per lb., as compared with 1s. 10¾d. per lb. in the previous year. 1,343,702 cocoanuts were gathered and 6,184,410 lb. of tea obtained during the past year.

East Indian Tea and Produce Co.

This company made a profit of £2,936 last year, which, with the amount brought forward from last year, makes a total credit balance of £ 2,959. After providing for debenture and other interest, a nett loss of £ 8,708 is shown in the accounts.

The Planters' Chronicle.

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Incorporated.

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EDWIN VINCENT,
Managing Editor, Coimbatore, S. India.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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REPORT OF THE EXECUTIVE COMMITTEE, U. P. A. S. I.

MEETINGS.—Two meetings of the General Committee were held during the year, and a third will take place immediately before the opening of the Annual General Meeting, in addition to which District Associations were asked to send representatives to a Meeting of the Executive Committee, held in Madras, on the 8th February.

The Executive Committee held six meetings, at Bangalore, Coimbatore, Madras and Ootacamund.

MEMBERSHIP.—The Shevaroy Planters' Association has rejoined us, and the same firms as last year continue as members, *viz* :—

Messrs. Aspinwall & Company.
Do. Barber & Pascoe.
Do. Binny & Company.
Do. Darragh Small & Company.
Do. Harrisons & Crosfield.
Do. Parry & Company.
Do. Peirce Leslie & Company.
Do. T. Stanes & Company.
Do. Volkart Brothers.

Sir Fairless Barber and Mr. J. S. Nicolls are personal members.

The acreage represented by the Association was last year just under 170,000 acres, and according to the last returns is now some 6,000 acres more.

Tea	75,413
Rubber	41,530
Coffee, Cinchona, Cardamoms and Pepper ...	59,010
Total ...	175,953

which is made up as follows:—

ACREAGE SUBSCRIBING TO THE U. P. A. S. I.

1ST APRIL 1920—31ST MARCH, 1921.

Association.	Estates.	Tea.	Rubber.	Coffee, etc.,	Total.
Anamalais ...	33	12,392	949	7 437	20,778
Bababudins ...	21	...	...	5,015	5,015
Central Travancore ...	25	13,749	155	35	13.939
Coorg ...	50	...	...	14.904	14.904
Kanan Devans ...	34	21,907	819	1,989	24.715
Mundakayam ...	11	1,115	11.703	...	12,818
Nilgiris ...	53	5,823	747	4,742	11,312
Nilgiri-Wynaad ...	17	7,140	315	4.557	12.012
North Mysore ..	38	105	280	7,593	7 978
South Mysore ...	43	...	...	7.593	7,593
South Travancore ...	14	4,127	6.884	...	11,011
West Coast ..	29	110	19,632	...	19.742
Wynaad ...	20	8,945	46	1,145	10.136
Shevaroys ...	20	...	...	4,000	4,000
Total..	408	75,413	41,530	59,010	175,953

LIABILITY OF FACTORIES ON ESTATES TO PAY INCOME TAX.—Last August, notwithstanding that, under some arrangement with the Government of India, a test case had been started in the Calcutta High Court, to obtain a ruling on this point, we found that planters were being pressed to make returns of income supposed to be secured by the manufacturer of leaf into tea. We asked the Indian Tea Association, if necessary, to bring the matter to the notice of the High Court, and at the same time addressed the Government of Madras, asking that they suspend further action in the matter, pending the decision of the Killing Valley test case. To this they replied regretting their inability to suspend the operation of an Imperial Act pending the disposal of a suit in another Province, but pointed out that we could, if we wished, address the Government of India, who addressed the Government of Madras, in the latter end of September, suggesting that they should suspend action, but before this reached them they had already issued orders to this effect. Judgment in the Killing Valley case was not delivered till the 31st May. It was to the effect that Government could not sustain the assessment which had actually been made, but that Factories are liable to the limited extent of the profit derived from the process of manufacture, as

distinct from the profit derived from cultivation and rendering our produce fit for the market. When income is derived in part from Agriculture and in part from business, Government have the right to make rules which shall prescribe the manner by which taxable income shall be arrived at. Until such rules are framed, income is not assessable, and we are leaving our interests in the hands of the Indian Tea Association.

INCOME TAX PAYABLE BY STERLING PLANTING COMPANIES.—The decision arrived at in the "Steven-Boustead" case permits a Company, assessable under the Income Tax Act, to deduct as an expense against its profits the annual value of lands, tenements and hereditaments situated abroad and occupied for purpose of its business. This matter is now in the hands of the Annual Values Committee of the Rubber Growers' Association. Negotiations were entered into with the Inland Revenue, in collaboration with the Indian Tea Association, the Ceylon Association and the South Indian Association in London, with a view to arriving at a settlement of claims under this decision. A settlement was arrived at in February, and the Committee are engaged with the questions arising out of the Finance Act of 1919, with a view to arriving at recommendations for a common basis of settlement for adoption by Rubber and Tea Companies.

EXCESS PROFIT DUTY —Liability of Planting Companies, under the Indian Excess Profit Duty Act, is dependent on the settlement of the question as to whether they are liable to Income Tax.

As regards the Excess Profit Duty in England, the re-hearing before the Board of Referees of the case for the Rubber Industry has been postponed, by arrangement with the Inland Revenue Authorities, until the "Merlimau Case" has been finally disposed of. The main issue raised in that case relates to the ascertainment of the amount of capital upon which the statutory percentage was to be allowed for the assessment of Excess Profit Duty. The Annual Report of the Rubber Growers' Association, issued in April last, states that there is little probability of this case being heard for some months.

EXCHANGE.—The resolution passed at the last Annual Meeting was forwarded to the Chief Secretary to the Government of Madras, who, in acknowledging it, advised that the Government of India would be addressed. Since then, the Report of the Currency Committee has been published, and we must hope that their recommendations will eventuate shortly in stability of exchange.

STAMP DUTIES:—The question having arisen as to what rate of exchange was to be used in calculating the stamp duty payable on Conveyances of Estates, the matter was referred to the Government of India, who, on 22nd April, notified that up to that date exchange was to be reckoned at Rs. 15 per £ 1, and thereafter at Rs. 10 per £1.

FOOD CONTROLLER'S TEA CONTRACT:—The Ministry of Food, with the advice of the South Indian Association in London, selected six Companies in Southern India to furnish figures to prove that the increased cost of production amounted to over ¼d. per pound as compared with the pre-war cost. Particulars were furnished in October, and after a considerable time the Ministry acknowledged the justice of our claim, and the extra farthing involved was, in January, granted to Companies controlled in London, further representations were made on behalf of the Companies controlled in India, and in February the concession was extended to them, so that both receive similar treatment as regards the 1918 contract. The Food Controller having announced his intention of paying Indian controlled concerns in London, the Indian Tea Association cabled to London demanding

payment at the rate of 1s. 4d. per rupee. The Food Controller rejected this contention, and the Indian Tea Association have now demanded that the point be submitted to arbitration.

FREIGHT AGREEMENT.—It was resolved, at the last Annual Meeting, to request the South Indian Association in London to approach the Liners' Conference with the view to the arrangement of a contract for the shipping of all Estate produce controlled by Members of the U. P. A. S. I. In reply, the South Indian Association pointed out that the conditions of shipping from our Western Ports are quite different to those at Calcutta, and that it was not possible to come to any arrangement on the lines of the Calcutta Conference agreement. They did not think it an opportune time to press the matter, but promised, if subsequently it appears desirable, they will take up the matter with the Hall, Ellerman and Clan Lines.

HOMEWARD PASSAGES, 1921.—Government having asked our opinion, as to whether it was advisable to introduce control of passages to England between 14th February and 14th June, owing to the possibility of there being even greater shortage of accommodation next year than was experienced early in this year, we advised them that, under the circumstances, we thought there should be control on the lines suggested by them, that men who have been in the country over five, and women over three years, should receive priority certificates.

PUBLICITY BOARD.—We offered, through the Agents of the Labour Department, to assist in the dissemination of information issued by this Board, and have from time to time distributed pamphlets likely to be of interest to the people with whom we deal.

SURPLUS ARMY CLOTHING.—In all, we obtained some 6,746 Blouses, 229 Shirts, and 875 Shorts from the Army Clothing Department, Madras, for planters.

FOOD GRAINS FOR THE LABOUR FORCE.—Much difficulty was experienced in several Districts, in obtaining sufficient supply of food grains for their coolies, but, thanks to the assistance of the Director of Civil Supplies, who at all times proved himself ready to give both practical help and advice, no actual want of food occurred. The part taken by this Association was a very minor one compared with the immense amount of work and financial assistance undertaken by individual planters, to stave off a catastrophe.

ELECTION OF PLANTING MEMBER.—Under the Rules issued in respect to the Reform Scheme, the system of nomination and election of the Planting Member will materially differ from that hitherto in force. An Electoral Roll will be maintained by the Secretary of the U. P. A. S. I., and, in future, any planter included in that roll, may, if he can find a seconder, nominate any person he finds willing to stand for election by the Planting Constituency. All Members of District Planting Associations affiliated to the U. P. A. S. I. will have a direct vote.

MEDICAL ARRANGEMENTS IN PLANTING DISTRICTS.—In April we were informed by the Surgeon-General that a campaign against Hookworm Disease had been started on the West Coast by Dr. Paul, of the Rockfeller Foundation, and we were asked to give publicity through the *Planters' Chronicle* to his articles and pamphlets on the subject. Several of these have appeared, and it is understood an active campaign against the disease is to be pushed forward on Estates in the immediate future.

DEMOBILISATION.—Up to the 31st March last, sixty-one planters who had been on service returned to their Estates, thirty-nine found new billets, and eighty-seven men with no previous planting experience found employ-

ment on Estates affiliated to this Association. The number has probably somewhat increased since we closed our records.

INDIAN DEFENCE FORCE.—Representatives of the Associations attended a Meeting at Madras called to consider a scheme for the organisation of an Auxiliary Force to the Army in India, but, as this scheme included compulsion, it was rejected by the Secretary of State for India. We were asked whether Volunteers were likely to be forthcoming, if called for to serve in Armoured Motor Cars, as a temporary disbandment of the Corps seemed inevitable unless arrangements could be made to man them with Indian Defence Force crews. No material seemed available in Planting Districts, but the Chamber of Commerce, Madras, thought that what was required could be found from men being demobilised from the Anglo-Indian Force. We have, now, been asked to ascertain how many of the men, who served during the war, would be willing to volunteer for service, on the frontier, if necessity arose.

COFFEE PRICES.—Thanks to the assistance given by Messrs. Rowe White & Co., we arranged for a weekly cable from London giving the price of "A" Coffee and condition of the market. This was received regularly from 18th December to 30th April, at a cost of Rs.57/11, and was published in the *Planters' Chronicle*. It will be for those interested to decide if they wish a similar arrangement made during next coffee season and, if so, for what period.

COFFEE LOANS.—The reason for the special loans to owners of Coffee Estates, viz., the difficulty due to want of shipping facilities having ceased to operate, Government, in September last, directed that loans should not in future be granted under the rules issued by them in April, 1918.

SALE OF COFFEE TO THE GREEK GOVERNMENT.—The Government of Greece declined to pay the loss in exchange which occurred on the 1918-1919 Contract, and left the matter of further purchases of coffee to the Business Firms in that country. No new contract was entered into in respect of the crop gathered during the season just closed.

QUALITY OF TEA SOLD IN BAZAARS.—The extraordinary low price at which tea was found to be selling in bazaars caused comment, and samples were obtained and analysed in comparison with a sample obtained from a factory selected for the high quality of the tea it produces. There was no evidence of contamination or adulteration in the bazaar sample, which gave figures equal in all respects to the estate sample, notwithstanding that tea similar to the estate sample was selling ex. factory at 8 annas loose and unpacked, and the bazaar sample was bought packed at 6 annas per pound.

UNSALEABLE TEA DUST & FLUFF.—An application was received from the Government Medical Stores for five hundredweight of unsaleable tea dust and fluff, which, with the assistance of planters, was supplied.

RESTRICTION OF IMPORT OF TEA INTO CEYLON.—The restriction of import of Tea into Ceylon, which limited the amount sent by any estate in Southern India to the amount imported in the year immediately preceding the outbreak of war, was, on our representation, removed in December last.

INDIAN TEA CESS COMMITTEE.—Sir Fairless Barber resigned, and Mr. H. L. Pinches took his place on this Committee. In accordance with the resolution passed at the last Annual Meeting, that one of the representatives for Southern India should be resident in Calcutta, so that we might press for his inclusion in the Executive Committee, Mr. C. E. Wood kindly resigned in favour of Mr. C. Simpson, of Messrs. Harrisons & Crosfield, who was nominated by the Madras Chamber of Commerce in his place, and

we have asked that Mr. Simpson should be given a seat on the Executive Committee.

In reply to our enquiries as to what amount of tea was actually purchased by the I. T. C. C., and our suggestion that we should offer a certain quantity of good tea to their buyers, they advised us that the tea they use is obtained from certain approved distributors, and recommended that planters in Southern India should get into touch with one or other of the firms mentioned, or, should we prefer it, they would always be glad to give any assistance they could to any distributing firms, in Southern India, who would be willing to take up the purchase and distribution of tea to the tea shops established by them. At the time this communication was received tea prices were booming, and, although a proposition was made to pool ten per cent. of all Dust and Fannings from all estates, for purpose of local sale, it met with no general support, and the matter was dropped.

IMPORT OF TEA.—In this matter, again, no special steps were taken to compete with the import of tea from Ceylon, but, owing probably to improvement in facilities for shipping, the amount imported in 1919, *i.e.*, 4,276,828 lbs. shows a decrease of practically three and half millions pounds as compared with the imports in 1918 of 7,770,739 lbs., and this falling off still continues. More than a million and a half pounds less were imported during first six months of 1920 compared with imports during same period in 1919.

INCREASE IN THE TEA CESS.—The Indian Tea Cess Committee brought forward a proposal that the cess should be increased from a quarter to one pie per pound, to meet the cost of extending the campaign of exploiting new markets. The opinion in Southern India, as far as we could gather it, was in favour of this proposition, but, the decision rests to so large an extent with the Directors of Companies controlled in London, that it was not possible for us to give a definite reply on the point, and we have asked the South Indian Association to ascertain what the feeling there is on the matter, which will probably come up for decision at the Annual Meeting of the Indian Tea Cess Committee to be held this month.

ROADS AND COMMUNICATIONS.—The Governments of Madras, Coorg, Travancore and Cochin were addressed with reference to the resolution passed at the last Annual Meeting urging the improvement of communications in planting districts, and the strengthening of all bridges and viaducts on main roads leading to them, in order to allow of the use of heavy motor transport vehicles. The authorities in Coorg are putting the main outlet roads to the West Coast into the necessary order, and it is hoped they will be complete before next coffee crop is gathered. The Madras Government granted an additional Rs. 45,500 for the improvement of the road between the Coorg frontier and Tellicherry, and the work has been almost completed. An estimate for strengthening the Kutupoza Bridge on this road is now under consideration of Government, and orders will issue shortly. The question of improving the roads from the West Coast to Mysore, and to and through the Wynaad and the Nilgiris and Ernad Taluk of Malabar, is also under consideration. Work on the Anamalais Ghat, which has fallen into a very bad state of disrepair has been taken in hand. A reply was received from the Cochin Government, but we have no advice of any special work being undertaken.

COCHIN HARBOUR.—The resolution passed at the last Annual Meeting was forwarded to the Government of Madras, who replied that the matter was engaging their earnest attention. Since then, a Superintending Engineer has been appointed, and a lakh and a half budgetted for expenditure this year for the pushing forward of the construction of jetties, warehouses,

etc, and next year visible signs of the progress made should be apparent. A Committee has been appointed to consider the organisation of a Harbour Trust, on which a representative of this Association has been given a seat.

RAILWAYS. HASSAN—MANGALORE.—The resolution passed last year was forwarded to the Dewan of Mysore, who acknowledged it and promised it should have due consideration. It was also forwarded to the Government of Madras, and, on the occasion of the visit of the Viceroy in November last to Mysore, representatives from the District Planters' Associations in Mysore and Coorg took the opportunity of bringing the necessity of opening this line to the notice of His Excellency. A Memorial to the same effect was presented by the North and South Mysore Planters' Associations, and some twenty members of the Dasara to the Dewan, but we have no definite information as to the project being undertaken to record.

RAILWAYS. SHORANUR—WYNAAD—MANANTODDY.—Resurvey of this line has been made, and an improved trace laid out, but construction as regards earthwork, which we asked last year might be put in hand, has not yet been taken up.

RAILWAYS. COCHIN—ANAMALAIS—MUNNAR.—At the Annual Meeting last year, a resolution was passed that the Governments of Madras and Cochin be asked to take steps for the early construction of the proposed Cochin Tramway to the Anamalais, the immediate result of which was, on the 8th September, an interview, held at Ootacamund, at the office of the Chief Secretary to Government of Madras, between the Hon'ble Mr. A. Y. G. Campbell, Col. Barnardiston, the Chairman of the U. P. A. S. I., some Anamalais and Kanan Devan Planters and the Dewan of Cochin. The outcome of this conference was that it was determined that any extension of the Cochin Tramway made should be on the metre, and not narrow gauge, and that estimates on that basis should be prepared. On the 26th September, a further meeting of those interested in the proposed railway was held, and it was resolved to appoint a small Committee of the Anamalais Planters' Association to assist the Planting Member in the matter, On the 18th March, Col. Barnardiston, accompanied by Messrs. H. P. O'Shaughnessy, Chief Engineer, Construction and Survey, A. W. Acres, Traffic Manager of the South Indian Railway, and Mr. G. E. Browning, Chief Engineer of the Cochin State, made an unofficial visit to the Anamalais, and were met by the Chairman and Secretary of the U. P. A. S. I. At a Meeting of the Anamalais Planters' Association at which they were present, held on the 19th March, it was resolved that the scheme should embrace a line from Munnar in the Kanan Devans, through the Anamalais to join the Cochin State Railway at some convenient point, and so give direct communication with the Cochin Harbour. Further, that steps be taken to have a preliminary reconnaisance made, and estimates prepared as soon as possible. The enlarged scheme including more than one district, it was decided to abolish the Committee formed in September and place the matter in the hands of this Association. It is understood that consent to the making of a reconnaisance has been accorded by the Cochin and Travancore Durbars, and that the Railway Board at Simla have been addressed on the matter, and we now await their reply.

RAILWAYS. AMMAYANAYAKANUR—PERIYAKULAM.—In the year 1913, the Madura District Board decided upon the construction of a line from Madura, *via* Usilampatti and Theni to Bodinayakanur, but, as the prospects of revenue and profit depended mainly on the goods traffic from the Travancore and Anamalais Hills, the project has been abandoned, in view of railway communication on the West Coast being extended so as to link up those planting districts with the Cochin Harbour. The Madura District

Board have, therefore, decided upon a line from Ammayanayakanur (Kodaikanal Road) to Periyakulam, beyond which the question of extension towards Bedinayakanur remains, for the time being, in abeyance.

RAILWAY TRANSPORT OF MANURES.—In September last, there was complaint made as to the delay in transport of manure by rail, due to the congestion of traffic at Jalarpet junction. Similar complaints as to delay arose in March and April of this year, the cause in this case being due to want of sufficient waggons. It is essential that manure should reach the stations to which it is consigned in time for the transport to estates to be worked in conjunction with carts bringing down produce, and we asked that manures might receive a preference over goods less urgently required. In all cases in which a definite case was brought to the notice of Traffic Superintendents, prompt action was taken to push the manures through.

INCORPORATION OF DISTRICT ASSOCIATIONS.—This matter has taken a very long time. A Memorandum of Association was drawn out by the Solicitors of the U. P. A. S. I. on the lines of the Memorandum of the parent Association, and presented no difficulties, but much time was absorbed in drafting articles to suit the very different systems in vogue of voting and management of District Associations; however, new Articles have been prepared on similar lines for all Associations, and the matter of registration can be proceeded with directly all Associations return the Articles sent them, duly signed.

INTER-DISTRICT LABOUR RULES.—The enforcement of these is dependent on the registering of the Articles of the different District Associations, and the matter has consequently been delayed pending Incorporation, but, from proceedings of the meetings of the different Associations, it seems that the few simple rules recommended last year will be very generally accepted, and a commencement made to introduce regular rules to be observed by all members of Associations affiliated to the U. P. A. S. I.

LABOUR ACTS.—In October, we learnt that a Bill to amend Act XIII of 1859 had been introduced into the Imperial Legislative Council. The matter being one of importance to many, if not all, District Associations, a Meeting of the General Committee was called to consider the matter. In November, the Chairman, Planting Member and Secretary had an interview with the Hon'ble Mr. A. Y. G. Campbell. In February, a Meeting of the Executive Committee was held in Madras, to which District Associations were asked to send delegates to represent their views in regard to this matter, and a deputation met His Excellency the Governor of Madras and laid them before him. However, the amending Bill was passed by the Imperial Legislative Council without consideration of the opinions of this Presidency. Cases having occurred in which Magistrates refused to entertain complaints made under contracts entered into before the new Act XII of 1920 received the assent of the Governor-General, the point was referred to the Advocate-General, who gave it as his opinion that the new Act was not retrospective. The desirability or necessity of amending Act I of 1903 is under consideration.

THE FACTORY ACT.—Certain representations, made by the International Labour Conference at Washington to the Government of India, will probably eventuate in the amendment of this Act, bringing conditions as regards employment in factories in India, more into consonance with existing practice in Europe, and planters will have to consider how this will affect them.

INTERNATIONAL CONFERENCE OF LABOUR.—We are asked by the Government of Madras to take steps to set up, in co-operation with other Associations of Employers in the Presidency, some machinery whereby it will be possible to select the representatives, in future, of employers. The Association will be guided by the action of the Madras Chamber of Commerce.

THE SCIENTIFIC DEPARTMENT.—Mr. Anstead, Deputy Director of Agriculture, Planting Districts, is at present at Home on leave, and Mr. F. R. Parnell, Economic Botanist to the Government of Madras, is acting for him. Mr. Anstead's report for the year ending 31st March was published in the "Chronicle," and copies will be provided to all representatives attending the Annual Meeting for consideration under item of the Agenda "Scientific Department."

EXPERIMENTAL STATIONS.—Lease Deeds in respect of the Experimental Stations at Mooply Valley and Peermade have been executed, although in neither case are they yet registered. With the exception of the Culture House, the erection of which has been left over until the Mycologist in charge can superintend the work himself, all buildings of the Mundakayum Mycologist Station are practically complete, a little remaining to be done in the way of cement flooring and painting of woodwork. A wall round the station is necessary, and the compound requires levelling and terracing.

MYCOLOGISTS.—Under the present programme, an Assistant Mycologist will be installed and have started work at Mundakayum by the time the Annual Meeting opens at Bangalore. But, owing to the cessation of training during the War, Government have up to date been unable to secure the services of either the General Planting Mycologist, or a Special Rubber Mycologist, but it is hoped that both of these appointments may, very shortly, be suitably filled. As our annual contribution to Government of Rs. 10,000 was contingent on the employment of a Mycologist for work on Tea, Rubber and Coffee, Government have been addressed asking them to consider the equity of refunding a portion of the amount paid last year, and making a reduction in the amount to be paid this year, until the appointment is made.

THE PEST ACT.—This came into force in March, 1919. A very serious leaf disease of Hevea Braziliensis, due to the fungus *Fusicladium macrosporum* having developed in Surinam, application has been made that this fungus be notified under the Act, and the import of Hevea seed from the American continent, or its islands, into South India be forbidden except through the Agricultural Department. This action was taken in view of the efforts being made to grow better varieties of *Hevea*, and the consequent likelihood of enterprising persons getting seed from the Western Hemisphere.

THE FERTILISER ACT.—The introduction of the Fertiliser Act has been mooted by the Government of India, and the proposals were published in the *Chronicle*, with a note by Mr. Anstead. Government have invited the opinion of interested persons on this Act, and we have replied through the Indian Tea Association. Our opinion has not been sought directly by the Madras Government, but it is understood that they have invited the opinions of manufacturers of artificial manures, from whom some opposition appears to be forthcoming. Briefly, the Act provides for an excluding schedule, comprising simple manures dealt in mainly by petty dealers, all other fertilisers coming under the Act which enforces sale by license only under guarantee, and provides for official sampling by Government officials.

INDIAN AGRICULTURAL SOCIETY.—The Government of India have recently been considering a scheme for the formation of an Indian Agricultural Society, with objects generally similar to those of the Royal Agricultural Society of England. Under the Reform Scheme, agriculture becomes a transferred subject, and agricultural development will, in future, depend very largely upon provincial initiative. It will be useful, therefore, to have an organisation of a *quasi* non-official character at the head-quarters of Government, with branches in the Provinces, to be a co-ordinating link in agricultural development. Outline of a scheme was published in the "Planters' Chronicle," of the 27th December last, and we should consider to what extent the proposal is to be supported by this Association.

BOARD OF AGRICULTURE IN INDIA.—This is a purely advisory body to the Government of India, and meets every other year. When Mr. Anstead was the Planting Expert, he was personally a member of this, but, after he had joined the Madras Agricultural Department, his name was removed and replaced by "A representative of the United Planters' Association of Southern India." We accordingly nominated Mr. Anstead as our representative. The next meeting of the Board will take place in 1922.

PLANTERS' CO-OPERATIVE STORES.—The select Committee, appointed at the last Annual Meeting, placed their report in the hands of the Executive Committee, who referred it to a meeting of the General Committee on the 1st November last, and the matter of forwarding the starting of a Co-operative Society was placed in the hands of Sir Fairless Barber, who was asked to report later to the Executive Committee. Various difficulties arose in connection with the registration of such a Society under the Indian Co-operative Societies Act, but these were, with the assistance of Sir Fairless Barber and the Planting Member, finally adjusted. As considerable money will be required to register the Society, it was decided to circulate a preliminary draft prospectus and proposed rules, and ascertain what amount of support was likely to be obtained, and this is now being done.

PLANTERS' WAR MEMORIAL.—Owing to the closing of the Government hospitals next year to all non-officials in a position to pay for treatment, it was found impossible to endow wards as proposed by the resolution passed last year. A proposal was then put forward that the Planters, Merchants, Railways, and all other non-officials in the Presidency, should combine in a general scheme to start a certain Nursing Association, to meet the general medical nursing and convalescent necessities of the community, that a Nursing Home in Madras should be established as soon as suitable accommodation can be found, and smaller Homes be opened at Bangalore, Trichinopoly, and other places as approved from time to time. The Fir Grove property at Ootacamund having been offered Lady Willingdon at a low price, on condition it should be used for such a purpose, it was taken over, and a part will be used for the purpose of a hostel for the Nurses of the Lady Ampthill Nurses Institute which, it is proposed, should be affiliated to the Central Nursing Association. The rest of the property is offered to the U. P. A. S. I. for the purpose of their War Memorial, and it was decided, after reference to the General Committee, to offer a contribution of Rs.50,000 from the funds now standing to the credit of the Planters' War Fund to the General Scheme of Nursing Homes in the presidency put forward by Lady Willingdon, with the idea that it would be used for the starting of the Home proposed at Ootacamund.

ST. GEORGE'S HOMES, KODAIKANAL.—An appeal was made to Planters for contributions of coffee for the use of these Homes, and some two hundred pounds, given by planters and others, was received and forwarded to the Principal.

PENTLAND PORTRAIT FUND.—We collected Rs. 805, and forwarded it to the Honorary Secretary of the Fund, and the portrait has, we understand, been put in hand.

THE LABOUR DEPARTMENT.—We have to record with great regret the death during the year, of two of our Superintendents. Mr. C. A. B. Bartels of Chingleput, died when on leave in England, and Mr. C. Prince, at his post at Palamcottah. These losses delayed the increase in the number of the European staff decided on at the last Annual Meeting. The vacancies were, however, filled and two assistants have come out from Home and joined the Department, Mr. Eaton being posted for the present to the Coimbatore Division and Mr. Bennett to Mysore. Mr. C. H. Brock has agreed to join, and will take up work at the Head Office at the end of the year.

It was found impossible to obtain the services of any one man to carry out a thorough enquiry into the question of recruiting labour in Districts other than those at present exploited, but, by engaging different men to report on different areas, a certain amount of the country has been covered, and it is hoped to place reports before the representatives of the Annual Meeting.

A detailed report as to the working of the Department will be found in the Report of the Director, which will be circulated separately.

SOUTH INDIAN ASSOCIATION IN LONDON.—We have at all times received great assistance from this Association on all matters referred to them, and hope to be able to arrange a regular system of interchange of information regarding planting matters, but regret that it does not receive that unanimous support from all planting interests in Southern India that it deserves.

It, at present, represents the interests:

Tea	62,555	acres
Rubber	30,121	do
Coffee, Pepper, Cardamoms and Cinchona ...	8.766	do
	101,442	Acres

We asked them last year to provide against those cases in which owners of estates joined as personal members and avoided payment of the acreage cesses either to themselves or to the U. P. A. S. I.

RUBBER GROWERS' ASSOCIATION.—Since our last Report, the Yendayar Estate has joined this Association, which is now supported by some 37,572 acres of rubber in Southern India. The R. G. A. is strongly supporting the Rubber Exhibition to be held at the Agricultural Hall, Islington, next June, and have offered £5,000 in prizes for ideas and suggestions for extending the present use, or for encouraging new uses of rubber.

SOUTH INDIAN PLANTERS' BENEVOLENT FUND.—This Fund met with very little support during the first six months of the year, but in December last steps were taken to re-awaken interest, and these finally resulted in a total collection of Rs. 5,451-9-0, to which must be added interest received, Rs. 604, giving an income exceeding that of any previous year, with exception of the first in which the fund was started. Benevolences to the extent of Rs. 2,700 were paid, and it was found necessary to write off some Rs. 1,295 account depreciation in value of Government

Paper held. Assistance to the extent of Rs. 4,800 has already been asked for since the end of March, but, with the greater support now being given the fund, no doubt this will be forthcoming.

SOUTH INDIAN PLANTERS' WAR FUND.—All loans shown in accounts as outstanding, and aid granted since, were charged off to grants-in-aid. Owing to rise in exchange, a loss of Rs. 2,378 had to be written off, and, since the accounts were closed, a further grant of Rs. 1,000 has been made. The amount now standing at credit of the fund is approximately Rs. 85,000, of which it was decided to apportion Rs. 50,000 as a contribution for the establishment of a Nursing Home in connection with the South Indian Nursing Association organized by Lady Willingdon. The question of the final disposal of this fund will probably be taken up at the Annual Meeting.

THE PLANTERS' CHRONICLE.—The profit made during the seven months, September 1919 to March 1920, inclusive, was Rs. 1,170-1-10, half of which, under an arrangement made with Mr. E. Vincent, was paid to him as a bonus, and the same arrangement as to half profits is being continued.

STATISTICS.—The reports issued by the Director of Statistics, Calcutta, are necessarily somewhat late in being issued, and, if planters could be persuaded to fill in and send back to us the returns sent out, we should be in the position of having early and reliable statistics in respect to our industries. The figures collected in 1919, although not absolutely complete, were fairly so, but results in 1920 have been much more unsatisfactory. While we experience no difficulty in obtaining figures from the Agents and Companies, notwithstanding repeated requests, the collection of figures from individual planters is most discouraging. Of 200 forms sent out to Coffee Estate proprietors, less than half were received back. Of 78 forms sent to Rubber Estates, 58 were filled in and returned. Last year, we received returns from 206 Tea Estates, but this year only 123 have sent in figures. Yet, from some districts, we have absolutely complete returns. Figures as regards labour employed in 1919 were carefully compiled in most cases, but more recent figures received appear to be mainly estimates. The attempt to collect these statistics has occupied a great deal of time and given much trouble to our staff, and the question arises as to whether it is worth while wasting more time on the matter, although enquiries recently from kindred Associations, the Cochin Harbour Trust and Railways, asking for reliable information as to the quantity of our produce, have been much more frequent than before.

ACCOUNTS.—These have been circulated, and are laid on the table. The balance shown, Rs. 41,716-6 6, as excess of revenue over expenditure, is due to the old Labour Department having met the cost of that Department, Rs. 48,375-12-2, during the first three months of the year, and the difference, Rs. 6,659-5-8, between these sums is the excess of expenditure over the amount received during the twelve months.

(Signed) A. S. DANDISON,

Chairman.

(Signed) C. R. T. CONGREVE.

(„) R. LESCHER.

(„) J. S. NICOLLS.

ANAMALLAI PLANTERS' ASSOCIATION.

Minutes of an Extraordinary General Meeting of the Anamallai Planters' Association, held at the Anamallai Club, on Thursday, the 8th July, 1920, at 2 p. m.

PRESENT.—Messrs. C. R. T. Congreve, (Chairman), S. Sladden, J. H. Ireland-Jones, E. Hardy, F. Simmons, H. Stuart, C. Fraser, Dr. Murray, and J. E. Sampson, (Honorary Secretary).
BY PROXY.—Mr. I. Stewart.

MINUTES.—The Minutes of the Extraordinary General Meeting, held on the 21st June, 1920, were taken as read, and confirmed.

ELECTION OF MEMBERS.—The following were elected Members of the Association :—

Mr. I. Stewart, proposed by Mr. Hardy, and seconded by Mr. Fraser.

Mr. D. R. B. Bentley, proposed by Mr. Jones, and seconded by Mr. Simmons.

Mr. O. M. Hetherington, proposed by Mr. Jones, and seconded by Mr. Simmons.

Mr. A. N. Walker, proposed by Mr. Jones, and seconded by Mr. Simmons.

Mr. Pawson, proposed by Mr. Sladden, and seconded by Mr. Hardy.

Mr. Dubois, proposed by Mr. Simmons, and seconded by Mr. Hardy.

Mr. R. J. Burnett, proposed by Mr. Sladden, and seconded by Mr. Hardy.

POSTAL AFFAIRS.—Read letter to the Chairman, from the Superintendent of the Post Offices, Nilgiri Division, dated the 21st June, 1920, with regard to the suggestion that the Association should purchase a cycle for the delivery of telegrams.

After some discussion as to the number of estates situated within five miles of the Telegraphic Office, (and, therefore, entitled to free delivery of telegrams), the following resolution, proposed by Mr. Fraser, and seconded by Mr. Sladden, was carried unanimously :—

"That this Association does not consider feasible the proposal to "supply a bicycle for the delivery of telegrams: and would ask "Government to carry out their part of the contract, and deliver "telegrams free within the 5-mile radius."

COCHIN-MUNNAR RAILWAY :—Read letters from the Secretary, U. P. A. S. I., Nos. 753 and 831, dated the 25th and 30th June, respectively.

The Meeting noted with satisfaction that the Cochin and Travancore Durbars have given their consent to the reconnaisance being carried out, and that Col. Barnardiston had addressed the Railway board, Simla, on the subject.

INCORPORATION.—It was proposed from the Chair that in view of the letter from the Secretary, U. P. A. S. I., No. 724, of the 25th June, 1920, the Memorandum and Articles of Association shall remain as printed.

RULES OF THE ANAMALLAI PLANTERS' ASSOCIATION.—Proposed from the Chair that it be left to the General Committee to revise the rules as necessary, and to bring the alterations made before the next General Meeting.

CORRESPONDENCE.—Read letter dated the 3rd July, 1920, from the British Ropeway Engineering Co. Ltd., with reference to recent visit of Mr. Midgely to the District.

The Chairman was requested to write to this firm, asking if they will undertake a survey of the proposed ropeway, the cost of such survey to be borne by the Association, and the survey to become the property of the Association. In the event of this firm obtaining the contract for the ropeway, it is presumed that the cost of the survey will be refunded.

Read letters from the Chairman, U. P. A. S. I., dated the 29th June, and 3rd July, 1920, and telegram dated the 1st July, 1920, with reference to the Anamallai Ghaut Road.

The Honorary Secretary was instructed to write to the Secretary, U. P. A. S. I., asking that he try to arrange with His Excellency the Governor to receive a deputation consisting of himself, the Chairman, U. P. A, S. I., and Messrs Congreve, Pittock, and Fraser.

Read letter No. 1394 M of 20, dated the 3rd July, 1920, from the Collector of Coimbatore, with regard to Act I of 1903. Also letter No. 807, dated the 29th June, from the Secretary, U. P. A. S. I.

The Honorary Secretary was instructed to write to the Collector stating that in view of the fact that Act XIII has been amended, and that Act XII of 1920 is inoperative as far as Planters are concerned, in as much as Maistries are not included in the Act that advance of over Rs. 300 cannot be dealt with by the Act, and that three months notice is necessary, the Association wish to have Act I of 1903 introduced.

Read and approved letter from the Pollachi Taluk Board, D. Dis. No. 799/T. B. of 1920, *re* opening of private markets on Valparai Township.

Read letter No. 868, dated the 2nd July, 1920, from the Secretary, U. P. A. S. I. *re* electing of Planting Member of Council.

The Honorary Secretary was instructed to remind those Members who hadnot yet sent in the information asked for.

INTER-DISTRICT LABOUR RULES :—Read letter from the Secretary, U. P. A. S. I., No. 726, of the 25th June, 1920. In view of same, the Honorary Secretary was instructed to inform the Secretary, U. P. A. S. I., that the Association, while pointing out that the present reading of Rules 2 and 3 does not meet with approval, is prepared to accept them, on the understanding that it reserves to itself, the right, at some future date, should it become necessary, to bring up the question of the amendment of these two rules.

U. P. A. S. I. AGENDA :—It was decided that the final directions to delegates shall be left to the General Committee. The Honorary Secretary was instructed to write to the Secretary, U. P. A. S. I., asking that the Hunter Report and the treatment of General Dyer be included in the Agenda, and that Roads and Railways be not deleted from the final Agenda.

ELECTION OF DELEGATES.—The Honorary Secretary was instructed to ascertain if Messrs Pittock and Carless, the Association's representatives on the General Committee of the U. P. A. S. I. are willing to represent the Association at the Annual Meeting of the U. P. A. S. I. at Bangalore.

In the event of either or both of these gentlemen being unable to attend, it was decided that the selection of delegates shall rest with the General Committee.

(Signed) C. R. T. CONGREVE,
Chairman.

(Signed) J. E. SAMPSON,
Honorary Secretary.

MUNDAKAYAM PLANTERS' ASSOCIATION.

Minutes of the Quarterly General Meeting, held on the 17th July, 1920, at the Mundakayam Club.

PRESENT.—Messrs J. J. Murphy (Chairman); F. Hawkins; W. M. Stanton; H. R. C. Parker; F. G. Millar; J. R. Vincent; H. B. McPherson; T. W. H. Fitchett; G. McPherson; A. G. Stewart; and F. H, Moulton (Hon. Secretary)

Visitors.—Capt. Shore, Mr. R. Lester and Dr. White.

1. MINUTES OF A MEETING HELD ON THE 17TH APRIL, 1920 AND 2. MINUTES OF COMMITTEE MEETING OF 22ND MAY.—These were taken as read and confirmed. The Chairman drew particular attention to the Committee Meeting resolution, reading: —"It was resolved that this Association's representatives are, in all cases, to act under instructions given either by its Committee or at a General Meeting."

3. PLANTERS' WAR FUND.—The Chairman said:—"The Secretary, U. P. A. S. I. has advised us that the request made by telegram on the 22nd of May, that the Executive Committee should cancel their decision to hand over War Fund money to H. E. Lady Willingdon's Nursing Home scheme pending a proper reference to subscribers, has not been agreed to. In my opinion it is, to put it very mildly, most regrettable that money subscribed for a definite purpose should be used for something entirely different without first obtaining the consent of subscribers. Before a resolution can be discussed at the annual U. P. A. Meeting, thirty days' notice have to be given, but an important matter involving Rs. 50.000 held in trust by the U. P. A. S. I. was hurried through in the course of a few days, and no discussion either at a U P. A. S. I. or a District Association Meeting—with the exception of Mr. Dandison's own Association—was permitted. This subject will again be brought to your notice later on to-day, when we come to the U. P. A. S. I. Agenda."

4. INCORPORATION.—The matter was discussed, and it was left for the Committee to go carefully into the Articles, and to report at the next meeting.

5. PETROL SHORTAGES.—The Chairman explained the position, and the Hony. Secretary was requested to write to the South Indian Railway H. Q. at Trichinopoly; the Traffic Manager, Madras Central station, Messrs Shaw Wallace and Co., Agents B. O. C.; and to the Madras Government.

6. COOLY CHATTRAM.—The Hon. Secretary gave figures showing the number of coolies using the Chattram from each District, and was requested to again write the Central Travancore P. A. with reference to the proposed Chattram at the 17th mile.

7. ANTI-CHOLERA INOCULATION.—The Hon. Secretary read the correspondence, and was requested to write to the King Institute, Guindy, to enquire if stocks are always available.

8. INTER-DISTRICT LABOUR RULES—These were discussed, but it was considered advisable to postpone the decision till after the annual U. P. A. S. I. meeting.

9. ELECTION OF U. P. A. S. I. DELEGATES—Messrs J. J. Murphy and J. R. Vincent were elected, Mr. G. McPherson to take Mr. J. J. Murphy's place if the latter is unable to attend.

10. INSTRUCTIONS TO U. P. A. S. I. DELEGATES.—It was decided to send notice to the Secretary, U. P. A. S. I. of the following resolutions : —

(1). That the balance at credit of the Planters' War Fund be paid after six months to homes for blind and crippled soldiers selected by the Executive Committee, in consultation with the South Indian Association, London.

(2). That this meeting regrets that the Executive Committee, before transferring Rs. 50,000 from the War Fund to H. E. Lady Willingdon's scheme for Nursing Homes, did not take adequate steps to ascertain the opinion of all subscribers.

(3). That the Benevolent Fund be registered as an Incorporated Society, and that the expenses entailed be paid by the U. P. A. S. I.

(4) That the close of the financial year be altered to the 30th June, and that the ordinary General Meeting be held within two months of it.

(5). That the ordinary General Meeting be held in future in Madras.

11. RUBBER EXHIBITION.—The Honorary Secretary read the correspondence, and the opinion of the meeting was, that this is a matter for the Proprietors of Companies to decide, and that this Association could not give financial support.

12. PLANTING MEMBER.—The Honorary Secretary drew the attention of the meeting to the article published in the *Planters' Chronicle* of the 19th June, and requested that members would send in the information required.

13. MEMORIAL TABLET.—The Chairman said he had seen and approved of the Tablet, and the Honorary Secretary was requested to forward it to Peermade for erection in the church there.

14. GENERAL COMMITTEE, U. P. A. S. I.—Mr. Eric Hall's resignation conveyed by his proxy, Mr. G. McPherson, was accepted with regret, and Mr. J. J. Murphy was elected in his place.

(Signed) J. J. MURPHY, *Chairman.*

(Signed) F. H. MOULTON, *Hon. Secretary.*

THE PLANTERS' CHRONICLE.

The Double Number.

A year ago we were preparing the first annual double number of the *Planters' Chronicle.* That it was appreciated when it finally appeared is evident from the many congratulations we received at the time, and from the notices our contemporaries were pleased to take of it. This year it was our intention to repeat, if not to emulate, last year's performance, but for various reasons this has not been possible. The most important of these is the continued increase in the price of paper. Our publishers have informed us that the price has again risen, and paper which cost £11 per ton *ex* steamer in Madras in 1914 now costs over £100. The *Chronicle* is issued free to all members of Associations affiliated to the U. P. A. S. I., and is also sent free to a large body of Scientific and Agricultural Associations throughout the world. Its subscription list, comprising those not directly connected with us, is a very modest one, and so long as this condition of affairs exists, it behoves us to confine our issues to an average of sixteen pages, which have latterly become more or less our weekly habit. This week's issue contains little of our usual programme, the annual report of the Executive Committee, U. P. A. S. I. occupying practically the whole of our available space, we have included the reports of the Mundakayam and Anamalai P. A. meetings as they have some bearing on the Annual Meeting of the U. P. A. S. I., and would suffer by being held over till next week.

SPRAYING FOR LEAF DISEASE IN COFFEE.

(Hemileia Vastatrix in Coffee.)

Dr. Coleman wr tes to *The Journal of the Mysore Agricultural and Experimental Union* :—

The question of spraying for various pests and diseases of coffee has been discussed at various times, more especially inthe *Planters' Chronicle*. Most of the data so far available has been with reference to spraying for Green Bug (*Cocus viridis*) and Black Rot (*Corticium koleroga*), and it is, I think, generally admitted that, where these are present in a bad form, spraying is well worth while. With regard to spraying for Leaf Disease, (*Hemileia vastatrix*), we have comparatively little data.

Mr. H. Kerr, of Kothencool Estate, Santaveri, has for several years been carrying on spraying work against leaf Disease on a large scale. He has very kindly furnished the figures in tabular form with regard to h s work which, I think, will be of great interest to many members of the Union. The table is appended. It may be noted that, while a certain amount of spraying was done in 1917, it is only from 1918 on, that a large proportion of the Estate was sprayed. Mr. Kerr considers, and I think rightly, that it is only on the results of the past three seasons that the effects of spraying can be judged.

With regard to his resulis, Mr. Kerr writes as follows:—" Herewith the details of my spraying. The yields under spraying work out at an average of a little more than 29 tons. As you will note, the crops have been fairly even since spraying was taken up; previously they were quite the reverse. To get an average for comparison with unsprayed areas, one must take the results of the previous four years, which total 70 tons, or an average of 17½ tons. This shows an average excess of 11½ tons per year, but this has to be discounted a little. as the year 1918. which shows 37 tons, would most likely in any case have been a big one. Still, taking this into consideration, there is a considerable, increasein crop and. as the manure has been rather less than in the previous years, I do not see how to account for it except through the spraying.

The whole thing, however, is full of contradictions; for instance th s year the crop was extremely heavy in some places both sprayed and unsprayed, and they both looked equally well; however, in the case of the latter spraying had been done on it last year.

My experience is, spraying certainly helps to ripen crop and keep on the leaves and makes the trees crop under fairly heavy shade, but it is no use doing a ' dud' tree. I am afraid we are getting a vast quantity of these now, and the men will not dig them out."

The above remarks are verv interesting, and I am sure a further account of results obtained by Mr. Kerr will be looked forward to with great interest.

Kothencool Crops, Sprayed against Unsprayed.

Year.	1912	1913	1914	1915	1916	1917	1918	1919	1920	
Total acreage	95	95	95	95	95	95	95	95	95	
Sprayed	...	...	...	...	...	20	78¾	59¾	52¼	
Unsprayed	...	...	...	...	...	75	16¼	35¼	42¾	
Quantity of manure per acre ...	30/6	45/7	30/6	22/4	26/2	17/4	19	25	...	
Cost of spraying	...	...	...	...	...	19	?	19/11	26	
Total Bushels	6948	1146	6031	1201	5708	821	6759	4035	5750	
Outturn tons	33¾	5¾	30	6	29/¼	4¾	37	20¾	30½	Estimated.
Bushels green per ton	206	...	201	...	194	172	182	194	188	Estimate; calculated on two previous years' average.

Actual Cost of Spraying 20 Acres.

	6 x 6		
135 coolies spraying at Rs. 5 ...	42	3	0
31 mixing at Rs. 5 ...	9	11	0
135 women carrying at Rs. 3 ...	25	5	0
Maistry 31 days at Rs. 5 ...	9	11	0
Commission on coolies ...	8	9	0
	95	7	0
4¾ cwt. sulphate at Rs. 60 ...	255	0	0
5 cwt. lime including tins ...	11	6	0
Rail on above ...	8	13	0
Carting materials to Estate ...	10	0	0
	380	10	0

This works out about Rs. 19 per acre, out of which Rs. 4-11-0 is labour, materials Rs.14-5-0

Crop sold by bushel dry.

Crop sold by bushel dry.

33 acres not manured.

No value put on cost of spraying, as I was experimenting with various strengths.

Crop not yet sold. Cost of spraying too high; I was not in the country.

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, 6th July, 1920.

CORRESPONDENCE WITH THE INDIA TEA ASSOCIATION, LONDON.—Letters, dated 3rd and 10th June, from the London Association were before the meeting. The chief topics of interest dealt with in them were :—

(*a*) *South Indian Association in London : Proposed subscription to the Scientific Department.*—In his letter of the 3rd June the Secretary of the Indian Tea Association stated that the South Indian Association in London had asked if they might subscribe to the funds of the Scientific Department, with the object of obtaining copies of the various publications issued. An annual subscription of £50 was suggested, for which they would receive twenty-five copies of each publication and the right to communicate with the Department, through the London and Calcutta Committees of the Indian Tea Association, regarding any points upon which information might be required. The London Committee were in favour of acceding to this request, and asked for the opinion of the Calcutta Committee on the matter.

The Committee were not clear as to the exact extent of the help which the South Indian Association would probably expect in return for this subscription. It could hardly be considered enough if, for example, one of the officers of the Scientific Department would be expected to visit South India for purposes of consultation or co-operation Thn Secretary was directed to make certain enquiries into the adequacy of the proposed subscription to cover the actual expenses of the publications issued by the Department, and to report on the matter to the Committee before their next meeting.

(*b*) *Diverted Cargoes.*—The question of the transference to London of the cargoes of steamers diverted, in February of this year, to outports was discussed at the meeting of the General Committee of the London Association on the 14th May. The Vice-Chairman of the London Association then stated that figures relative to teas in London on that date were as follow :—Allocated to the wharves and not yet housed, 100,000 packages : in the docks, to be allocated, 61,000 packages : to arrive during the month 121,000 packages—making a total of 282,000 packages. In dead storage there were 250,000 packages. As deliveries would not be more than 350,000 packages during the month, it was obvious that the diverted teas could not yet be dealt with.

The Committee noted these figures with interest.

(*c*) *Regulation of sales : Proposed regulation of shipments of tea from India.*—The London letter of the 10th June dealt at length with the above subject. Figures collected from importers

showed that approximately 558,000 packages remained in their hands after the sale on the 9th June. This amount, divided over eleven selling weeks to the end of August, would represent a weekly quantity of 50,700 packages, apart from South India and second-hand teas. The position was a serious one, as the new season's teas would be arriving before the balance of the 1919 season crops would have been sold. Consequently the London Committee were recommending that, until further notice, importers should restrict weekly sales, either by auction or otherwise, to an average of 6% of the balance of the 1919 crop remaining unsold after the sale of the 16th June.

With regard to the proposed regulation of shipments. the Secretary to the London Committee remarked that, at the time of the negotiations in connection with the ocean freight agreement early in 1919, when the Calcutta Committee raised the question of rationing space, Sir John Ellerman promised that definite instructions would be sent, by the owners in London to the Calcutta Conference, that they were to confer with the Calcutta Committee, in the event of a serious shortage, to see that tea was equitably proportioned between shippers according to space available. The London Committee were of opinion that, if the Conference would consent now to put into force the scheme as then proposed. it would greatly assist, and ensure that no advantage would be given to one shipper over another. They were also of opinion that, to make the scheme equitable, the percentage ought to be calculated on the aggregate of Calcutta and Chittagong shipments ; in other words, that both ports must be dealt with as a whole, and not separately. Further, in this connection, the London Committee invited a reference to the statement by the London Tea Allocation Committee, which showed that, on the 31st May, 320,000 packages still required bonded accommodation.

The terms of this letter were noted by the Committee. It opened up no aspects of the question which had not already been fully discussed. This correspondence was now to be recorded,

PROPOSED REGULATION OF SHIPMENTS OF TEA FROM INDIA.—This question was discussed at length in the unabridged proceedings of the last meeting. It was then decided to issue circulars to all members, asking them to co-operate in carrying out London's suggestion that the monthly shipment of this season's crop should be restricted to 8% of the estimated total crop for the year until the end of October, when the situation could be reviewed. Accordingly, as decided at the last meeting, circulars had been drafted for issue. On a further consideration of the matter in circulation, however, the Committee decided not to proceed with the circularisation of members without further reference to London. The question had been raised whether London, in their previous cables, had intended that shipments should be restricted to 8% of the estimated crops of those gardens usually shipping to London, or of the total estimated crop of Northern India. In view of the present suspension of sales in Calcutta, it was probable that many people who normally sold here would be forced to ship to London. It was accordingly agreed that this possible development should be brought

to the notice of the London Association, and the following cable was despatched on the 1st July :—

> "Your cable 14th June owing lack of demand Calcutta market Committee consider Calcutta concerns will probably also ship 8% estimated total crop making approximate shipment 30 million monthly. Therefore suggest quantity be reduced to 5%. Cable reply."

A reply from London was still awaited, and the position meantime was to be recorded.

STATISTICS OF PRODUCTION OF TEA IN INDIA FOR 1919.—A letter dated 29th June from the Officiating Director of Statistics, stated that the Department was now collecting information regarding the production of tea in India for 1919. Tables of figures were forwarded for criticism, with special reference to those of production When the figures were in course of circulation to the Committee, the Vice-Chairman had pointed out an obvious discrepancy, for, according to the tables subm tted, the number of acres under tea had increased by 70,000 between 1910-1915, whereas the increase in production between 1915-1919 was only 4½ million pounds.

The Committee discussed the possibility of devising a more accurate method of obtaining statistics. Accordingly the Secretary was directed to write to the Department of Statistics, suggesting to the Director of Statistics that he should collect his figures on some such system as the following. The various agency houses might first be approached for returns. If a guarantee were given that these would be treated as strictly confidential, there was no reason to suppose that they would not be forthcoming. The figures might then be forwarded to the Deputy Commissioner or other appropriate official, who should be asked to enlist the help of the various Branches of the Association in order to get statistics from the gardens not represented in Calcutta. Closer collaboration between Government officials and the different Branches of the Association seemed absolutely essential to the compiling of more accurate figures of production. The Director of Statistics was to be asked to let the Committee have his opinion on the system suggested.

PROPOSED GIFT OF 5% OF CROP TO THE INDIAN TEA CESS COMMITTEE.—A letter dated 30th June had been received from Khan Bahadur Moulvi Musharuff Hossein, B.L., proprietor of the Hossanibad Tea Estate, in which he suggested that, in view of the present glut of tea in the London market, producers should unite in making a gift of 5% of crop to the Cess Committee to open shops in the bazaars, in order to increase the consumption of tea in India, and so dispose of the excess quantity of tea. The Committee considered the suggestion, and agreed that the proposed gift would not relieve the present position. The root of the present trouble of the industry really lay in over-production, and the only possible methods of temporarily redressing the present slump in the tea market were to hold back shipments of the new crop to the United Kingdom and to adopt a finer system of plucking. The Secretary was directed to thank Khan Bahadur Hossein for his suggestion, and convey to him the views of the Committee on the subject, as above outlined.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

22nd July, 1920.

Statistics.

Dear Sir,—The article in P. C. of July 17th on Statistics is calculated to generate a certain amount of warmth amongst many planters, "not straightforward or businesslike," "worth his salt," "forced" "people like that." Hoity—toity! These be words. I admit that statistics bring grist to the mill of those interested—in statistics. It might please "people like this" to set up a new Department, with a Liar-in-chief, costing several lacs. If white lies are a doubtful quantity, I would guarantee the black portion. It would take more than an old Dryasdust with his forms to "force" any community against its idea of equity, and it is because so many (including most of those the P. C. is pleased to consider back numbers, *i.e.*, the small proprietors) consider statistics as mere eye-wash, that passive resistance is so general, and after all what good have statistics ever done in the world? One can imagine the writer exclaiming in the style of Micawber "Vital Statistics are, as their name implies, the stuff of life to-er-innumerable clerks. If they do not make dry bones live, they at any rate turn living things into dry bones. They make darkness visible in the glare of-er-redtape. They are in short—vital statistics." The Jews—the wisest people in the world—had an instinctive dislike to them. When David numbered the people, according to plan, a large proportion of the total was promptly wiped out with influenza. As to the late epidemic, a man who sat in his office devising beautiful graphs and making aspects take parallel lines would have got, or at any rate deserved, the sack. No Sir. Planters were better engaged in visiting their coolies, giving them medicines, and though often taken themselves, trying to encourage them in the most mysterious and awful epidemic he or they had ever known. These backwoodsmen, so "difficult of access," with their, "one horse show" believe, rightly or wrongly that a man's place is in the field or amongst his coolies, in practical work, not in the office piling up bundles of rubbish. They do not wish to be swathed and bound in red tape, some of them, surprising as it may seem, have actually been to England, and seen what bureaucracy *in excelsis* means there. Get your crops and your coolies, and let someone else compile the lies.

But spare, Oh, spare us, another Department.

Yours ever,

One of them.

Notice to Correspondents.

"A Scottie" and others:—Not authenticated.

W. H. F. Lincoln:—Declined with thanks.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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RUBBER.

Controlling the Output.

The Rubber Growers' Association has taken up the recommendation of alternate-daily tapping in the following letter, addressed to its members :—

"For some time past there has been a serious shortage of labour on most Estates in Malaya. The *Straits Times* had a strong leader on the subject on May 8th, and the Hon. Mr. F. G. Harvey, of Pataling, followed this up with an able letter published in that paper on May 15th, reiterating arguments which he had put before the Planters' Association of Malaya advocating the enforcement of alternate-daily tapping. Other leading planters are also directing attention to this question.

Briefly, the position may be summarised as follows :—

The supply of labour, not only in Malay, but throughout the rubber-growing countries of the East, with the possible exception of Ceylon, is inadequate to enable all tapping tasks to be filled without detriment to the proper maintenance of the Estates in other essential respects.

Food supplies are short, and, notwithstanding the poor results obtainable, the various Governments are insisting on Estates planting food-stuffs, thus further depleting the labour force needed for upkeep.

The demand for coolies being in excess of the supply, rates of pay are being forced up, and, whilst some increase in pay may be well justified, the situation requires prompt steps to be taken, if a crisis is to be averted.

From this point of view, there can be very little opposition to the proposed adoption of alternate-daily tapping, but this system can be further justified on the ground that the Industry, as a whole, does not at present possess a superabundance of healthy bark in the accessible portion of the trees. In Ceylon, where bark conditions are better than in other countries, alternate-daily tapping is in vogue on the majority of Estates.

The tappable bark of the trees represents the main asset of the Industry, and, if bark is consumed at a greater pace than that at which nature is able to fully renew it, Estates are encroaching on Capital.

Diseases of various kinds have taken their toll of trees and of bark, and Brown Bast still defies the efforts of Scientists to find a preventive and cure. It is the opinion, in some quarters, that trees tapped alternate-daily are less liable to Brown Bast than those tapped daily, and certainly instances can be quoted in support of this. In the light of our present imperfect knowledge of Brown Bast, it is impossible to say whether the comparative immunity from the disease in such cases is attributable to the tapping system or to other causes, but it is a factor meriting consideration.

During their connection with the Industry, Boards of Directors have doubtless sanctioned only such tapping systems as appeared to them, in the light of their knowledge from time to time, to be conservative, but, with the years, knowledge has advanced and tapping systems, which a few years ago were considered to be conservative, have proved to be too severe a drain on the recuperative power of the trees.

The Council of the Association, after carefully weighing all the factors, therefore, desire to recommend every rubber-growing Company and proprietor seriously to consider the advisability of meeting the present labour shortage by reducing bark consumption—adopting either alternate-daily tapping without increasing the length of cut, or resting, entirely, those areas on which bark reserves are seriously impoverished.

It will doubtless be urged that such a step must increase the cost of producing each pound of rubber, and, whilst that holds good in the earlier stages of a change from daily to alternate-daily tapping, Estates which have adhered to the alternate-daily system are among the cheapest producers.

It is safe to assume that a higher price will be obtained if a smaller crop is to be marketed.

The Council would remind those who are liable to pay E. P. D. that, with this tax at 60 per cent., Corporation Tax at 1s., and Income Tax at 6s., only 26·6 per cent of the profit they make in excess of their standard is left to them. If such small share of extra profit is obtained by encroaching on Capital—*i.e.*, using up bark more rapidly than nature can replace it—then it appears to be unjustifiable from every point of view."

* * *

It will be remembered that we published, a few issues back, an article on this subject dealing with the *pros* and *cons* of the case for alternate-daily tapping. This article dealt mainly with three of the points now put forward by the Rubber Growers' Association as its reasons for the recommendation, *viz.*, Shortage of labour, Health of the Trees and effect on Prices. In addition to this, we are reminded of the reduction in bark consumption, which would ensure a conservation of what is, after all, the Reserve Capital of a Rubber Estate.

For what it is worth, our opinion is on the side of the *ayes*, and we have yet to see an argument against alternate-daily tapping sufficiently convincing to overcome its obvious advantages. The reason why many planters who have tried the change are disappointed with it, is that they have been so disgusted with the first year's results that they have reverted to daily tapping, without giving the alternate-daily system a fair trial. Naturally, in the first year of change the results are disappointing, like the effect of thinning out, but, once the trees have settled down to the new system in S. India, at least, the majority of opinion on the points enumerated above are in favour of alternate-daily tapping. This is our conjecture, and no doubt if we are wrong our rubber planting readers will put us right. At the same time they may, if they wish, take exception to our pet theory that it is all a matter of education of the trees. We believe that any particular tree or block of trees is capable of yielding so much rubber in a certain number of years, and no matter what system, within limits, is used, that yield will be reached if the work is properly done and the trees kept in health. Thus, if you persist in daily tapping from the beginning, the yields will eventually fall off at a time when another field, under the rival system, is still going strong, and is, perhaps, beginning to overhaul its overtapped neighbour.

But, however this may be, it does not affect the use of alternate-daily tapping as a means of overcoming the present adverse position of the industry in the world's markets. The sudden change to this system means, for the time being, anything up to 40 % reduction in output. The Rubber Growers' Association considers it safe to assume that a higher price will be obtained if a smaller crop is marketed, and there is strong evidence to show that the trees would benefit in health. Why, then, hesitate? Because shareholders want dividends, because, unless managers work their places up to the hilt, they get rapped over the knuckles for failure to reach a fantastic estimate. It is for this reason that the Rubber Growers' Association letter has force. It, presumably, is backed by the shareholders at home, and by boards of directors who ought to know what they are talking about. So far as we are conerned, we can only regret that our tea planting friends are not in the position to bottle up their resources for a time by ceasing to pluck, as the rubber planter is able to conserve his capital by the control of periodicity of tapping.

THE LATE Mr. de ROOS NORMAN.

A very wide circle of planting friends will learn with regret of the death of Mr. R. de Roos Norman, late of the Cochin Rubber Company, and for many years a prominent figure in the planting world of South India. He died of cancer at Bournemouth, on the 23rd July last, and our readers will join with us, we are sure, in extending our sincere sympathy to his bereaved family.

KANAN DEVAN PLANTERS' ASSOCIATION.

Proceedings of the Annual General Meeting of the above Association, held in the High Range Club, Munnar, on Saturday, 10th July, 1920, at 3 p. m.

PRESENT.—Messrs. A. G. Murray (in the Chair), W. O. Milne, G. A. Holden, W. A. Lee, J. M. Bridgman, W. J. Dixson, C. P. Gouldsbury, W. F. Inman, H. A. Ragg, J. S. B. Wallace, E. H. Francis, H. J. Watson, P. G. Campbell, C. H. Mitchell, G. R. Strachan, (Honorary Secretary), and by proxy, A. Ff. Martin, Wm. Mackenzie, M. C. Koechlin, A. J. Wright. *Visitors.*—Dr. J. S. Nicolson, M. D., Messrs. E. C. McCankie, B. I. John, A. Blair Hill, W. P. Laird, K. M. Ross, R. B. Cullen and G. W. Cole.

Apology for absence from Mr. A. W. Leslie was intimated. The notice calling the Meeting having been read, before proceeding to business, the Chairman made the following reference to the late Mr. J. C. Abbott:—

"Before opening the business of the meeting, it is my sad duty on this occasion to refer to the death of one who was a personal and great friend to all of us, and I cannot but feel my own incapacity to express even a little of the great sense of irreparable loss and sorrow felt throughout the South Indian Planting community in general, and by this our own Association in particular, caused by the death of Mr. Abbott.

Mr. Abbott held many responsible positions during the course of some 40 years' planting experience, in nearly every branch of tropical agriculture that has come under the observation and interest of European planters. His experience and knowledge of planting matters were far beyond anything that the majority of us can hope to attain, and although of a retiring disposition, his ability and influence were so widely recognised that he was continually sought after to represent and advise this and other planting communities, and Associations, and his advice and assistance were as eagerly requested by many individual planters. His kindly presence, and tactful humour has on many occasions saved Planting meetings from degenerating into acrimonious disputes, and perhaps at no other period of its history could the Planting community so ill-afford to lose a man of his sterling business capacity and integrity, than at the present time, when men like him are so badly needed in every direction. In his business, as in his private life, he stood for all that was honourable, and straight alone, and his name will always be associated with the best efforts of the Planting community towards fair play to its interests and members. Although held in such high esteem for his business and mental capacity, it was in his private life, as a kindly, courteous and true British gentleman, that he won all our hearts, and many of us feel that we shall never see his like again. Hospitable and approachable almost to a fault, he was known everywhere as a man who would always relieve distress, if it was in any way within his power to do so, he was sought by people of every class and position who brought their troubles to him, and the influence of his kindly personality extended far beyond the limits of his immediate residence. While he was certainly the very last man to consider himself as such, he was truly an example to us all, and many have good cause to bless his name.

I propose that we place on record our deep sense of the loss our community has sustained through the death of one who was, I may say, the most highly esteemed of its members, and that our Hon. Secretary be instructed to convey to Mrs. Abbott and her family the sympathy of this meeting in their great bereavement."

The vote was passed in silence, all members standing.

The minutes of the Bi-Annual General Meeting having been printed in the "Planters' Chronicle," of which every Member had received a copy, were taken as read, and the following Agenda was then laid on the table:—

1. Honorary Secretary's Report.
2. Chairman's Remarks.
3. Accounts.
4. Proposed Munnar-Anamalais-Cochin Railway.
5. Lady Ampthill Nurses' Institute.
6. Proposed Memorial to Members who have fallen in the War.
7. Inter-District Labour Rules.
8. Proposal to frame rules for Boyan Labour.
9. Election of U. P. A. S. I. General Committee Members.
10. Election of U. P. A. S. I. General Meeting Delegates.
11. Election of Office-Bearers.

SCHEDULE 1.

HONORARY SECRETARY'S REPORT.

Mr. Chairman and Gentlemen,—

The following is my Report on the working of the Association during the ten months ended the 31st March, 1920.

As you are aware the financial year of the Association in previous years ended on the 31st May, but, in order to come into line with the Parent Association, it is necessary to alter this to 31st March, which date concludes the U. P. A. S. I. year. The accounts have, therefore, been made up for ten months only, and I propose also to deal only with this period in my report, in order to avoid confusion in future.

The Membership of the Association remains the same as last year, and comprises 35 members, who represent an acreage of tea, 21,907·19 acres, coffee 797·70 acres, rubber 819·00 acres, cardamoms 965·73 acres, and cinchona 225·82 acres. Total 24,715·44 acres, or an increase all over of 81·58 acres.

TEA CROP—It is very satisfactory to note that the tea crop secured in recent years has been steadily increasing. Owing to the fact that this Report deals with a period of ten months only, I refrain from giving any comparative figures, which would be worthless as statistics, but I think there is very little doubt that a 12 months' figure would compare favourably with that of the previous year.

PRICES—The present condition of the Tea Market is alarming to a degree, and, unless matters improve in the near future, the outlook of the Producer beggars description. I am afraid I am not sufficiently informed as to the position to make any remarks on the subject, but it would appear that the present state of affairs cannot possibly last for any appreciable time, and we can only hope that this will prove to be the case. Should the Home Government's proposal to re-open business relations with Russia materialise, it seems possible that this may relieve the situation to a very considerable extent, and we may look for better times in the future.

MEETINGS.—Up to 31st March the Bi-annual General Meeting, and one Extraordinary General Meeting and six Committee Meetings were held, and although all the Committee Meetings have been well attended, I regret I cannot say the same as regards the General Meetings. I should, therefore,

like to take this opportunity, gentlemen, to draw your attention to the fact that the lack of interest shewn by many members in the affairs of the Association is very disheartening to your Committee, and, if I may say so, especially so to your Honorary Secretary. May I express the hope, therefore that every member who can possibly do so will make a point of attending future General Meetings of the Association.

MEDICAL GRANTS.—The medical grants in respect to the three Grant-in-aid Dispensaries in the District have, as usual, been regularly paid, and our thanks are due to H. H's Government for same.

FINANCE.—As you are aware, the old rate of subscription of Rs. 20 per member was discontinued as from the date of the reorganisation of the U. P. A. S. I., when the new cess of -/1/6 per acre came into force. As you will see from the statement of accounts which is before you, this has so far been quite sufficient to meet the expenses of the Association, and the credit balance of Rs. 2,597-7-8 may, I think, be considered as very satisfactory. In order that you may be aware of the present position, I may add that balance, as at 30th ultimo, was Rs. 2,338-15-5, exclusive of the quarterly cess which is now due.

THE L. A. N. INSTITUTE.—This matter is included in the Agenda when the question of future subscriptions falls to be considered, and it is therefore unnecessary for me to make any remarks on the subject here.

SRIMULAM POPULAR ASSEMBLY.—Owing to the fact that we had no special subject to bring forward at the Assembly, the Association was not this year represented, but I think that, in future, full advantage should be taken of the opportunity offered by Government to discuss matters of legislation, and that a representative should be sent to the assembly, even although we have no special resolution to bring forward.

ROADS AND COMMUNICATIONS.—The proposal, to which reference was made in my last report, that the future maintenance of all minor Government roads in the District be undertaken by the Associations, has unfortunately fallen through owing to the fact that the members chiefly concerned did not see their way to take up contracts on the terms offered by Government. I have, however, made several representations to Government asking that roads and bridges which were in a particularly bad state of repair be put in order, and, as I have received no recent complaints from members, I can only hope thereby that the matter has been attended to.

S. I. P. B. FUND.—In response to the strong appeal made by our Chairman at the last Bi-annual General Meeting, and to a further appeal which I also made to those members who were not present, subscriptions to the extent of Rs. 165 were promised, and this amount has now been collected and remitted to the Secretary, U. P. A. S. I. I would point out, however, that, out of a total membership of 36, the above sum was subscribed by only 17 members, and I therefore now make a further appeal to those who have not already paid a subscription. Heaven knows, gentlemen, that in these hard times we cannot afford much, but I nevertheless think it is up to us all to contribute our "widow's mite" to this very deserving fund.

There is, I think, nothing further in the working of the Associations during the period under review which calls for special comment, but before closing my report, I should like to take this opportunity to thank you for the honour which you have done me in electing me as your Honorary Secretary during the past 3 years. My thanks are also due to the Chairman and Members of Committee for the support and help which they have afforded me during my term of office.

I now place my resignation in your hands.

SCHEDULE 2.

CHAIRMAN'S ADDRESS.

Gentlemen,—

We have a very long agenda to deal with, and I will not trouble you with many remarks from the chair. I would like, however, to make two. One is to propose a very cordial vote of thanks to our Hon. Secretary, Mr. Strachan, not only for his clear and able report just submitted, but also for the very sporting and public-spirited way in which he has carried out his duties, throughout the term of his office. Gentlemen, I do not wish to put a brake upon any one's ambitions towards the secretaryship, but it should be clearly understood that the work connected therewith has been heavy in the past, and likely to grow more so in future. It is a post that requires real tact and discrimination, and, in Mr. Strachan, we have discovered one who is eminently fitted for the position he has just vacated. If my successor to the chair has the good fortune to secure Mr. Strachan, as Hon. Secretary, I can assure him that his labours will be light, and pleasant. I might almost say that any pleasure connected with the duties of the chair will be assured to him, and all the work to the Honorary Secretary. It is an unfair but pleasant division of labour, which has been my own experience, thanks to Mr. Strachan. In connection with Mr. Strachan's report, I should like to say one word regarding our meetings. It is more necessary now than ever it was before, that all Planters should interest themselves in the work of this and other Associations. It has long been the custom to consider that, so far as this Association is concerned, the work can well be left to the representatives of the interests concerned, together with the Honorary Secretary, Chairman and Committee.

Gentlemen, this is a mistake, not only from the point of view of the Association Committee, but from the individual point of view as well. The business of the Association is not only the business of the representatives of large planting interests, it is also the business of every individual planter who takes an interest in his job. Many questions of vital interest to the individual planter, have or are about to come before the Committee of the U. P. A S. I., and only through channels such as this Association can the individual make himself heard. It is more particularly to the interests of younger members of the Community that they attend meetings and note the arrangements and resolutions now being adopted, as, what is now being done, will affect their future, probably considerably more than that of the older members. I have recently heard it remarked that an expression of opinion by a junior member at these Meetings might well bring him into trouble with the senior, or General Manager, of his particular interest, and therefore it is not wise for such as he to put forward any unauthorized opinions. It is seldom wise to put forward ill-considered and unauthorized opinions anywhere, gentlemen, more particularly if they do not happen to be good ones, but surely this is a difficulty easily got over by consultation and consideration beforehand, and good ideas and opinions are always wanted, even in the K. D. P. A.

I would personally prefer to see a great deal more interest and keenness shown by all members, even if it led to considerably less peace and harmony at our meetings. The danger of stagnation and indifference is always present, and tends to grow. I think I have served on every Committee in the district, and I think I may fairly say the members do not grudge the time and work they give to such, if only they can feel that the people

who have elected them take some interest in and watch the work they do. It is often difficult, and anything but pleasant, and members should remember that support and backing are obligations that go with their votes.

3. ACCOUNTS.—Mr. W. J. Dixson proposed, and Mr. W. A. Lee seconded that the accounts and balance sheet as now before the Meeting be approved and adopted. Carried unanimously.

4. PROPOSED MUNNAR-ANAMALLAIS-COCHIN RAILWAY.—The Honorary Secretary briefly informed the meeting of the proposal put forward by the Anamallai Planters' Association that this Association join with them in putting up the necessary funds to meet the cost of a preliminary recognizance and estimate for the above railway. The matter had been put before the heads of the various concerns in the District, with the request that they, in the first place, ascertain their Principal's views, and the subject had been placed on the agenda in the hopes that these would be forthcoming at this meeting, when the matter might be discussed. Unfortunately, however, these hopes had not been realised, and he, therefore, requested that discussion on the subject be postponed until such time as something definite could be decided. This was unanimously agreed to, and the subject was therefore withdrawn from the agenda.

5. LADY AMPTHILL NURSES' INSTITUTE.—The Honorary Secretary intimated that he had received a circular to the effect that the Institute now proposed to raise its rate of subscription to Rs. 20 per annum per member, as against the old rate of Rs. 100 for the whole Association. In accordance with his Committee's instructions, he had offered a counter-suggestion that the subscription be on an Estate basis of Rs. 20 per Estate, such subscription to cover all European employees, both Managers and Assistants, and their dependents. The following telegram from the Honorary Secretary of the Institute had now been received, and it rested with the Meeting to decide whether the Association should continue to subscribe, or not:—

TELEGRAM.—"Propose recommend my Committee 25 rupees per "Estate. Our Meeting 14th anticipate recommendations will be accepted "but cannot guarantee."

Proposed by Mr. W. A. Lee, seconded by Mr. H. J. Watson, and carried unanimously that, as nothing definite has yet been decided by the Institute, the matter be left in the hands of the Committee to decide as they think fit.

6. PROPOSED MEMORIAL TO MEMBERS WHO HAVE FALLEN IN THE WAR.—Mr. J. M. Bridgman, Chairman of the Sub Committee, appointed to go into this question, said:—

"Mr. Chairman and Gentlemen:—This proposal stands in my name, "and I am proud of being allowed the honour of giving my views on the "matter. It is up to us to do what we can to make a permanent record to "those of our comrades who fell in the great war, and, although times are "hard and money tight, we should each one of us at least subscribe our "widow's mite to this work. We have not so far got very forward with any "scheme, but our intention at this meeting to-day is to try and find out what "the District, to a man, would like to do, and, from the list that was sent "round, the majority of votes are for Mr. G. W. Cole's proposal, which "is as follows:—

'That the Memorial should primarily be a general one, *i.e.*, for the whole 'District, Europeans and Indians alike, and be erected to commemorate the 'victory of the Allies in the great war, and be a memorial for those fallen. 'Everybody in the District who wishes to subscribe should be allowed to 'do so, and the memorial consist of a substantial column of dressed local 'stone, with one or more bronze plates depicting figures of our soldiers, 'both European and Indian, a Sailor, an Airman, and at the same time 'representatives of labour, both European and Indian, with possibly a 'Warship, an Aeroplane and a gun. A Bronze plate giving the names of 'members of the district who have fallen in the war would occupy a 'prominent place on the memorial, and the opening ceremony be made on 'the occasion of a general holiday, and be as impressive as possible.

"Well, gentlemen, as this has your vote, your Sub-Committee can now "get out an estimate of cost, and when this has been done will send round "a list, and those who wish can give what they can afford. This is all I "have to say at present, and we shall be very glad to hear what any one "else would like to say on the subject. As Mr. Cole's proposal has been "adopted, I should like to propose that his name is added to the Sub-Com-"mittee, and he asked to submit plans for the carrying out of his "proposal.'"

This proposal was seconded by Mr. Strachan, and carried unanimously.

Mr. Cole briefly thanked the meeting and intimated his willingness to serve on the Committee, and at the same time undertook to submit a rough plan of the proposed memorial.

The Chairman proposed a vote of thanks to Mr. Cole for his proposal, which was carried with acclamation.

Mr. Strachan proposed and Mr. Watson seconded a hearty vote of thanks to Mr. Bridgman and the other Members of the Sub-Committee, for the trouble which they were taking in regard to this matter. Carried unanimously.

Mr. Milne proposed that the Managing Agents of the various concerns in the District be asked to subscribe to the memorial. Seconded by Mr. Bridgman, and carried unanimously.

In response to a suggestion put forward by Mr. E. H. Francis, it was resolved to circulate Mr. Cole's plan with the subscription list.

7. INTER-DISTRICT LABOUR RULES.—A copy of the rules having been in the hands of every member for some days, the Chairman asked if any of those present had any remarks to make on the subject. This meeting with no response, Mr. J. M. Bridgman proposed that the rules as printed and circulated, with the slight alteration to Rule 111 of which intimation had been received from the Secretary, U. P. A. S. I., and of which the meeting had previously been informed, be adopted. The resolution was seconded by Mr. E. H. Francis, and carried unanimously.

8. PROPOSAL TO FRAME RULES FOR BOYAN LABOUR.—The Honorary Secretary read a letter, dated 9th July, 1920, which he had received from Mr. Hawkins, at whose request this subject had been placed on the Agenda, regretting his inability to attend, and suggesting that the subject be withdrawn, and he would endeavour to place some proposals before the Committee later on. No other members having any remarks to make on the subject, it was decided to record Mr. Hawkins' letter.

9. ELECTION OF U. P. A. S. I. GENERAL COMMITTEE MEMBERS.—The Chairman proposed that the present members, viz., Messrs W. A. Lee and G. R. Strachan, be re-elected. Carried unanimously. Mr. Lee briefly

thanked the meeting on behalf of Mr. Strachan and himself for the honour conferred upon them.

10. ELECTION OF U. P. A. S. I. GENERAL MEETING DELEGATES.—The Chairman said that, having just elected Messrs. Lee and Strachan as the Association's representatives on the General Committee, he felt he could not do better than propose that they also represent the Association at the forthcoming U. P. A. S. I. Annual General Meeting, to be held at Bangalore next month. This was unanimously agreed to, and Mr. Strachan thanked the Meeting in the name of Mr. Lee and himself.

Mr. Murray having vacated the Chair, the election of office-bearers for the ensuing year was then proceeded with.

Mr. W. O. Milne was elected Chairman, but, while thanking the members for the honour done him in putting his name forward, could not see his way to accept office. Mr. Murray having the next largest number of votes was, therefore, re-elected, and undertook to act until he leaves on furlough towards the end of the year.

Mr. G. R. Strachan was re-elected Honorary Secretary, and thanked the meeting for the honour done him. As, however, he had acted in this capacity for 3 years and hoped to go on furlough shortly, he considered that it was now some other member's turn, and he, therefore, regretted his inability to act. Mr. E. H. Francis was thereafter elected to the vacant office, and in a few words thanked the members.

The following Committee was elected :—

Messrs. J. M. Bridgman, J. S. B. Wallace, J. S. Hawkins, W. C. Milne, and A. Yates.

The Chairman asked permission to add the name of Mr. G. R. Strachan to the Committee, which was unanimously agreed to.

With a vote of thanks to the Chair, the meeting then terminated.

NOTE.—A subscription list on behalf of the S. I. P. B. Fund was circulated at the meeting, but resulted in no further subscriptions being secured.

(Signed) A. G. MURRAY,
Chairman.

(Signed) G. R. STRACHAN,
Hon. Secretary.

SOUTH MYSORE PLANTERS' ASSOCIATION.

Extraordinary General Meeting, held at the Travellers' Bungalow, Saklaspur, on Thursday the 22nd July, 1920.

PRESENT :—Lieut-Col. W. L. Crawford, D. S. O. (President), Major C. C. Couchman, Capt. L. Hill, Messrs. H. F. Anderson, W. T. Scholfield, E. H. Young and T. Anderson (Acting Honorary Secretary.)

Before opening the Meeting, the President said that he wished to move a vote of condolence with the relatives of Mr. C. A. King, who passed away at the Madras Hospital on the 9th inst. after a painful illness. Although in latter years Mr. King was not a member of this Association, he was one of the oldest planters in this district.

Carried, all standing.

The notice calling the Meeting was then read, and the minutes of the last Annual General Meeting confirmed.

1. U. P. A. S. I. Annual General Meeting.—The following members were elected as delegates from this Association :—

Lieut.-Col. W. L. Crawford, D. S. O. and Mr. C. J. Hayward. Mr. T. Anderson to take the latter's place, should he not be well enough by then to attend.

2. Articles of Association.—These were agreed to, and the Hon. Secretary was instructed to obtain the 7 signatures to the 3 copies as required.

3. Labour Rules.—These were agreed to.

4. Railway Freights.—Letter from the Traffic Manager, Mysore Railways, General No. G. 623-17, dated 23rd June, 1920 was read, in which the Railway charges on a ton of Coffee by rail and sea route from Hassan to Mangalore was given at Rs. 29-2.

5. Manure Shed at Hassan.—The site selected by the President was agreed to.

6. Roads.—Resolved :—" That the Honorary Secretary be instructed to write to the Supervising Engineer, Western Circle, concerning the bad condition of the following roads :—

Balu	—	Kerodi
Barguai	—	Belur
Archalli	—	Biccode
Saklaspur	—	Hassan (particularly from the Alur cross-road to Hassan.)

Bangalore-Mangalore (Causeway was washed away over two years ago, and has not as yet been repaired, and the deviation is impassable in wet weather.)"

7. Coffee Curing and Manure Works.—Resolved :—" That this subject be left over for further information; but in the meantime the Honorary Secretary be instructed to approach members with a view to eliciting what support the scheme is likely to receive."

8. European Cemetery, Hassan.—Resolved :—" That this question be dealt with by the delegates to the U. P. A. S. I. meeting while they are in Bangalore."

9. Planting Member For Madras Legislative Council.—Resolved :—" That members' attention be drawn to page 490 of the *Planters' Chronicle*, dated 17th July, 1920, and, as there is no time for the Hon. Secretary to collect this information from members, those who are desirous of voting be asked to forward the required particulars, *i.e.*, their age, father's name and their address to the Secretary, U. P. A. S. I., direct."

10. Dasara Representative Assembly.—Lieut.-Col. W. L. Crawford, D. S. O. was elected to represent this Association at the above Assembly, and was asked to introduce the question of the alteration of the present Mysore Probate Act, to bring it into conformity with the Amended Act in British India.

The Meeting closed with a vote of thanks to the Chair.

(Signed) THISELTON ANDERSON,

Ating Hon. Secretary,

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta on 20th July, 1920.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION, LONDON.—Letters, dated 17th and 24th June had been received from the London Association. The principal subject dealt with was:—

Food Controller—Extra cost of production in 1918.—The proceedings of 22nd June published the text of a cable, dated 21st June, from the London Association, showing that the Food Controller had rejected the Committee's contention that payment of this extra ¼*d.* per lb. should, in the case of Indian controlled concerns, be made in Calcutta, in rupees calculated at 1s. 4*d.* per rupee, and paid at the current rate of exchange. The London Association had demanded arbitration on the question; and it was now noted that, while the Food Controller was prepared to arrange for arbitration, he had suggested that this might be a matter for amicable settlement between the legal advisers to the Ministry and the London Association's solicitors. The London Committee had been asked whether such a discussion would be acceptable prior to the appointment of an arbitrator, and this suggestion was under consideration. Further advices from the London Association were now to be awaited.

PROPOSED REGULATION OF SHIPMENTS OF TEA FROM INDIA.—This question was last referred to in the proceedings of 6th July, wherein members were advised of the terms of the cable sent to the London Association, putting forward reasons for the suggestion that the monthly crop shipments might be reduced from 8% to 5% until October, when the situation could again be reviewed. Pending receipt of a reply to this cable, it had been decided to defer circularising members on the lines agreed upon at last meeting.

A reply, dated 16th July, had been received in the following terms:—

"Your cable 1st July. Committee agree reduce shipments to 5%
"provided all shippers agree enforcement rationing scheme
"including buyers."

The position was again discussed in all its aspects. There appeared to be doubts as to whether all shippers would obtain the necessary authority to ration their shipments on the lines suggested. Absolute unanimity could perhaps not be reached. But it was evident that shippers must recognise the need for restricting shipments until the position eased. It was accordingly decided to circularise members inviting their co-operation in carrying out the proposals, and to invite similar assistance from the Calcutta Liners Conference, and the Tea Traders Association. Meantime, the Secretary was instructed to arrange for statistics of tea shipments to be procured regularly from the Collector of Customs, and submitted weekly to the Committee, for

their guidance as to how the situation was progressing. It was further decided to cable these decisions to the London Association in the following terms :—

> " Your cable 16th July. Committee recommending all shippers restrict " shipments to 5% also requesting buyers to co-operate. Will " watch and advise result."

THE POSITION OF THE TEA INDUSTRY.—The Committee had seen in circulation, and they now considered, a letter dated 10th July from a member, and one dated 13th July from the Bengal Chamber of Commerce, both dealing with the present depressed condition of the tea market and the desirability of taking immediate steps to meet the situation. The former letter cited a press report to the effect that Ceylon Planters seemed prepared to reduce their crops and co-operate with India in so doing. This letter also referred to steps already being taken in India to reduce the output ; and it concluded with the suggestion that consideration might now be given by the Committee to the desirability of securing the general co-operation of members to this policy, and also to give the policy the publicity it required to make it successful. The letter from the Chamber forwarded copy of a letter from the Ceylon Chamber, stating that Ceylon proprietors and agents strongly favoured a general restriction of output, to counteract the present low prices and steady the situation. The Ceylon Chamber enquired whether India would be prepared to co-operate with Ceylon in this direction, and whether any scheme for a general reduction of output was considered feasible.

The Committee discussed the matter, and were inclined to think that this subject had already received consideration from the Indian and Ceylon Associations in London. They decided to ask the London Associations for particulars of any discussions which might have already taken place in London on this particular question. The Ceylon Chamber was to be advised of this reference, and informed that, while Committee understood the majority of gardens in India were already restricting output by concentrating on better quality by finer plucking, it was felt that this was a matter for individual action, and one on which no definite ruling could be given. A reply on similar lines was to be sent to the member referred to above.

OIL OF CINNAMON AS A PREVENTIVE OF INFLUENZA.—The Committee's circular No. 48, dated 10th July, 1920, covering copy of a printed note by the Sanitary Commissioner for Bengal regarding the efficacy of oil of cinnamon as a preventive of influenza was now to be recorded.

SCIENTIFIC DEPARTMENT SUBSCRIPTIONS—REQUEST FROM THE SOUTH INDIA ASSOCIATION, LONDON.—In the proceedings of 6th July, 1920, mention was made of a request received from the South India Association in London to be allowed to subscribe £50 annually to the funds of the Scientific Department, in exchange for 25 copies of each publication issued by the Department, and the right to seek advice from the Officers of the Department through the medium of the London and Calcutta Associations. As instructed, the Secretary had reported to the Committee regarding the adequacy of the proposed contribution ; and it was now decided to meet the wishes of the South India Association, London, on the terms proposed, but on the distinct understanding that the European Officers of the Scientific Department would not be called upon to go to Southern India. The London Association was to be informed accordingly.

RUBBER TRADE ASSOCIATION OF LONDON.

Monthly Statistics.

JUNE, 1920.

Movements of all kinds of Rubber to and from the United Kingdom as per BOARD OF TRADE RETURNS.

IMPORTS.

From	May.			5 Months ended May.		
	1920	1919	1913	1920	1919	1913
Straits Settlements and F. M. S. ...	1,778	5,698	1,976	21,358	25,670	10,041
Ceylon and British India ...	1,288	1,845	343	10,790	10,927	2,760
Dutch East Indies, &c. ...	536	956	110	3,879	3,543	516
Brazil and Peru ...	1,334	986	2,021	3,945	5,470	10,286
Other Countries ...	436	445	1,665	1,429	1,826	8,118
Total Tons ...	5,372	9,930	6,115	41,401	47,436	31,721

EXPORTS.

To	May.			5 Months ended May.		
	1920.	1919.	1913.	1920.	1919.	1913.
United States of America ...	2,104	1,278	1,361	20,038	7,846	6,550
Canada ...	201	218	50	1,752	285	188
France ...	1,494	824	438	6,723	5,526	1,989
Belgium ...	122	201	164	1,355	802	833
Italy ...	315	615	39	1,759	2,626	104
Spain ...	15	13	3	81	109	28
Germany, Austria, Hungary ...	628	6	1,079	1,801	6	4,738
Russia ...	3	46	633	22	46	3,021
Sweden, Norway and Denmark...	159	258	89	459	790	301
Other Countries in Europe ...	30	143	130	185	148	584
Other Extra European Countries.	98	27	94	418	211	326
Total Tons ...	5,169	3,629	4,080	34,593	18,395	18,662

LANDINGS, DELIVERIES and STOCKS in London and Liverpool as returned by the Warehouses and Wharves during the month of May.

		Landed for May.	Delivered for May.	Stocks 31st May. 1920.	1919.	1918.
LONDON ...	Plantation ..	5,477	6,455	20,354	22,366	15,493
	Other Grades ...	68	41	567	551	342
LIVERPOOL...	Plantation ...	183†	380†	1,104†	3,770†	2,160†
	Para & Peruvian	1,175	599	1,350	1,270	583
	Other Grades ...	...	2	445	478	575
Totals London & Liverpool ...		6,903	7,477	23,820	28,435	19,153

† Official Returns from the five recognised Public Warehouses.

Movements of all kinds of Rubber, excluding Gutta, Balata and Guayule, to and from the U. S. A., AS PER RETURNS OF THE UNITED STATES DEPARTMENT OF COMMERCE.

	March.			3 Months ended March.		
	1920.	1919.	1918.	1920.	1919.	1918.
IMPORTS ...	36,820	28,858	12,433	98,330	54,101	36,903
EXPORTS ...	248	181	465	565	401	1,218

RECEIPTS AT PARA.

	May.			July/May (11 Months).		
	1920	1919	1918	1919/20	1918/19	1917/18
Rubber ...	1,780	1,450	810	25,560	23,203	23,701
Caucho ...	730	990	1,125	6,450	6,132	8,591
Total ..	2,510	2,440	1,935	32,010	29,335	32,295

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

THE EDITOR,
"Planters' Chronicle."

More Co-operation !

Dear Sir,—Sophos' article on "Co-operation," with its moral applying to tea planters, deserves surely the most careful consideration at the U. P. A. S. I. Annual Meeting under the agenda item 'Control of Production of Tea,' and there is another aspect of tea planting in which co-operation should also be our motto; I allude of course to the actual working of estates, labour rates, advances and (particularly) new extensions. One surely need not be dubbed a pessimist in mentioning the last, meaning that the expansion of the industry should only take place gradually, and in accordance with a common policy worked out in the best interests of us all. Unregulated, unlimited opening of new estates can only have one result—over-production, in fact, according to the I. T. A., this is already the case, and partly accounts for the slump in the market.

Apart from this danger, however, there is the labour question, and, if the industry could only work more as a whole in this matter, it would find that in very many cases it would be a more paying policy to utilise the available labour for the full development of existing estates than for the opening of new ones, with the inevitable consequence of further competition for labour as well as raising of pay and advances. On the other hand, some old estates give very poor results owing to poor jat, disease or impoverished soil, yet keep a number of coolies employed which could be much more profitably used on superior or new properties. The same applies, too, to very unhealthy estates. "Co-operation" (in its general rather than its special sense) is of course the obvious remedy, but will only be adopted under sheer pressure of circumstances, I am afraid; till when we may sigh in vain for anything like it, and the present game of cut-throat competition, principally in the matter of labour, will go merrily on, much to Ramasamy's present benefit and ultimate demoralisation.

Coarse plucking, of which there has been a great deal of late years, has been another cause of our own undoing, but here, again, it would have been useless for some estates to have plucked fine when the majority were going in for the opposite and (temporarily only) better paying policy.

However, it's an ill wind that blows nobody any good, and, if adversity makes us all pull together more in all such details of organisation in future, the present depression in the trade is all to the good. The heads of the big interests at home and out here will be put together, wasteful (but not healthy) competition in labour will be eliminated, and future plantings will be controlled. Lastly, perhaps the Tea Cess Committee will get to work in real earnest, and really justify its existence by the discovery of new markets. Up to the present the results obtained appear to be somewhat disappointing, especially as regards India itself which—in the South at least—shows no signs of absorbing anything but Dust and Fanning, only (7-10 % of our crop) leaving 90 % to be disposed of in outside markets. When we find 15 or 20 % the figure for Indian consumption, then we shall know the Tea Cess is really worth while.

? ANOTHER VOICE CRYING IN THE WILDERNESS.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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BOTANICAL RESEARCH.

An appeal has been issued through the Rubber Growers' Association for subscriptions to a scheme for furthering research in plant diseases, bio-chemical problems connected with the manufacture of tropical produce, bacteriology of soils, plant breeding, and other cognate subjects of value to tropical agriculturists. The appeal appears over the signatures of Lord Crewe, Sir Alfred Keogh and Professor J. B. Farmer, of the Imperial College of Science and Technology. They point out the inadequacy of the present accommodation, and the necessity of supplying additional laboratories if the demands made in the interests of tropical plantations alone are to be met, and if an ample supply of properly trained men, familiar with up to date methods of research, are to be maintained, as they should be, by the Botany Department. Plans have been submitted for extensions near the existing Botany building to cost, for erection alone, £70,000. The Imperial College receives assistance on a large scale from Government and the London County Council towards its annual maintenance, but is compelled to seek private aid for the extension of its work, to say nothing of the provision of an Endowment Fund.

So much for the appeal, which has so far resulted in promises of £15,700 from various companies, many of which have subscribed on the basis of 1s. per planted acre.

We do not think any doubt can be entertained as to the magnificent services rendered in the past by the Imperial College to the Planting Industry in the East. The long list of officers at present doing excellent work in Tropical agriculture, and who are ex-students of the College, is sufficient proof of this. The names of Richards, Shaw, Bateson, Sharples, Pinching, Sutcliffe, and Sydney Morgan are almost household words in India and the F. M. S., particularly to those interested in the Rubber Industry, and, in view of our present urgent need of the two Mycologists wanted to complete the new organisation for Scientific Aid to planters in South India, we do not doubt that there will be a sympathetic response to this appeal from all planters.

That the appeal is backed in the present instance by the Rubber Growers' Association will not, we trust, lead to Coffee and Tea planters ignoring it. In the list of subscribers, so far published, we notice the names of not a few Tea concerns, and no doubt the appeal will reach Indian Tea Association in due course. We cannot say, of course, what has been done in other directions by the Governing Body of the College, but it seems to us that a wise step would have been to have issued this appeal simultaneously through the Rubber Growers' Assoc ation, the Indian Tea Association, the South Indian Association in London, and the Ceylon Association in London. A large ground would thus have been covered, whereas the subscription list so far consists largely of F. M. S. Rubber Companies.

To us in South India, the scheme is of interest for the reasons mentioned above. Everyone, now-a-days, realizes what the promoters of the appeal emphasize, viz., that the areas of Rubber, Tea, Coffee, Cocoanuts, Fibres, Timber, and other tropical products owned by British investors, are so large, and the plantation interests of such vital importance to the British Empire, that every effort should be made to train scientific men who can attend to the many diseases now attacking cultivated plants, to the problems associated with the manufacture of tropical produce to the bacteriology of soils, and, above all, to questions of plant-breeding and sanitation. No doubt this has been realised for some time past, and is no new thing. The war, unfortunately, must be blamed for the retardation of any attempt to put such efforts into motion, but, now that we are free once more to study these things, impetus should be given to any scheme which aims at furthering such policies as that enumerated by the Governing Body of the Imperial College.

To us in S. India, the delay has been of great importance, and, as time goes on, we suffer more than most people realize from the inability of the Secretary of State to find our two Mycologists. It must not be lost sight of that, as the planting industry expands in Southern India, it will be necessary also to widen the scope of the Scientific Department. To have two Mycologists at work is an excellent thing, and to add a Bacteriologist and an Economic Botanist is to visualise an even greater ideal. The time will assuredly come when we shall look to Professor Farmer and his staff to find them for us, but, unless the money is forthcoming now, the men will not be forthcoming when, in the years to come, the need of them will be realized even more than it is to-day

THE ANNUAL MEETING.

The time approaches for the Annual gathering together of delegates from all parts of S. India, from the different Associations, and firms affiliated to the U. P. A. S. I., to the Planters' Parliament, which takes place at the Mayo Hall, Bangalore, this year, on Monday, August 23rd, and following days. The following is the list of probable delegates :—

Anamalais P. A.	... Messrs. J. Carless and C. K. Pittock.
Bababudins P. A.	... Mr. S. H. Dennis.
Coorg P. A.	... Messrs. P. G. Tipping and E. L. Mahon.
Central Travancore P. A.	... Messrs. J. S. Wilkie and E. C. Sylvester.
Kanan Devan P. A.	... Messrs. W. A. Lee and G. R. Strachan.
Mundakayam P. A.	... Messrs. J. R. Vincent and G. McPherson.
Nilgiri P. A.	... Messrs. J. B. Vernede, E. Sydenham Clarke, and A. K. Weld Downing.
Nilgiri-Wynaad P. A.	... Messrs. J. S. Nicolls and J. Aird.
North Mysore P. A.	... Mr. W. H. Reed.
South Travancore P. A.	... Messrs. J. B. Cook and Edward Lord.
South Mysore P. A.	... Lieut.-Col. Crawford, D.S.O., and Mr. C. J. Hayward.
Shevaroy P. A.	... Not known.
Wynaad P. A.	... Messrs. J. A. Gwynne and E. E. Eyre.
West Coast P. A.	... Not known.

In addition to the above, the following members of the Executive Committee, Messrs Congreve and Lescher, and the following representatives of firms will be present :—

For Messrs Parry & Co. Mr. A. E. J. Gawler, B.A.

For Messrs Peirce, Leslie & Co. Mr. W. K. M. Langley.

For Messrs Aspinwall & Co. Mr. Martin

Mr. Thiselton Anderson will act for Mr. Hayward as delegate of the South Mysore Planters' Association in the event of the latter gentleman's inability to attend.

The Secretary, U. P. A. S. I., is arranging to reserve berths by the Bangalore Mail for delegates coming from Mettupalayam, the West Coast, Anamalais, etc. Any delegates requiring berths who have not yet sent in their names should at once do so.

Amusements at Bangalore during Planters' Week include a dance, Fillis' Circus, and, on Saturday, the Bangalore Races.

"RUBBISH CALLED TEA."

GLASGOW TRADER'S STRONG CRITICISM.

The following very strong letter appeared in the *Glasgow Herald* last month :—

Sir,—In your issue of to-day's date, under the heading of London correspondence, "Low Prices of Tea," you are advising the public that the retail price of tea has not been reduced to them by the amount of the drop on the first hand cost of tea on the London market. In making this statement you are not fair to the trade. When discussing a produce like tea, which consists of hundreds of different sorts and many grades, it is obvious

that intrinsic value is the only honest basis for criticism. Tea traders, generally, constantly complain of the attitude of the press. It is the old story—a little knowledge is dangerous—but, sir, we do not fear the truth.

In my experience of 35 years, I have never seen such rubbish called tea as has been offered on the London market within the past six months. I use the word "offered" advisedly, because thousands of chests have had to be withdrawn for lack of bids. The stuff has been so bad that literally it was unsaleable. Reputable merchants would not sully their reputation by handling such produce. It is an open question whether much of it is injurious to health.

Growers were forced, through Government control of price, to pluck coarse, and they have evidently overdone it. Many specimens of originals which have been offered within the past 14 days would indicate that the entire tea shrub (with perhaps the exception of the root) is being manufactured for consumption. The appearance of this stuff is more like mahogany chips than tea, and I tell you, sir, that the Scottish public would not buy it at any price.

So much information has been published on the subject of tea, that the housewife is very well able to look after value. Tea trading is entirely competitive, and keen enough to ensure the customers' interests. There is no corner or ring in our trade, and we are entitled to ask for intelligent criticism —I am, etc., MATTHEW CAMPBELL.

CRIMPING.

It is gratifying to note that the Government considers that something should be done to meet the growing offence of crimping, and that they have indicated they will consider any serious scheme receiving the extensive support of planters. Looking at it on moral grounds, and not merely on legal, we think, says *the Malayan Tin and Rubber Journal*, that crimping is wrong. Those who advocate it, and practice it, contend that the estate which brings coolies from India brings them as free agents, and does not purchase them body and soul. Accordingly, if a cooly wishes to work on another estate, why should he be prevented from doing so? And why should a manager of an estate be looked upon as almost a criminal if he employs that cooly? Granted that the cooly comes as a free agent. The days of indentured labour are over, never to return again, and every cooly who comes into this country is free. But, as he has been engaged for a particular estate, he is morally bound to go to that estate, and almost invariably does. That estate has gone to considerable trouble and expense to get him, and is entitled to his services. Under these circumstances, why should another manager, who has not gone to the trouble and expense to recruit his labour in India, be allowed to come along and take that cooly? "Oh!" it will be said, "the cooly comes alone of his own free will, and the manager, requiring additional labour, engages him." A beautiful theory. Those managers who crimp other estates' coolies do so systematically, and do not engage a cooly just because he happens along. They have professional crimpers in many cases, who visit estates, and, with stories of so much better conditions to be obtained elsewhere, persuade the coolies to leave the estate to which they are engaged.

To our mind crimping is just as immoral as theft, and we should regret to think that any British subject was so perverted as to support it. It simply cannot be supported, and we wish that moral standards in this country were so high that crimping would be impossible, even without

the aid of the law. There is a law in existence to meet the situation, but in practice it is not comprehensive enough, and in point of fact has attained little enough. If we could depend on an appeal to the morality of all managers, there would be no need to seek additional legal powers, but we are yet far from that Utopian state, and, it is to be feared, that we have to seek greater powers from the Government. Hitherto, Government, it must be admitted, have not openly given much indication that they are prepared to assist the industry to meet the evil, but the statement of Mr. Marks, at the Kuala Lumpur meeting of the General Labour Committee of British Malaya, holds out hope that, the moment the planters of the country can devise a scheme that is likely to prove effectual in reducing the number of offences, the Government will be prepared to give it all the legal dressing required and to send it out into the world. Planters, for years, have complained that the Government have not consulted with them when any important measure, bearing on the planting industry, was being considered, and it has to be admitted that, generally, they had quite good grounds for their complaints. It is, therefore, up to them, now, to devise a scheme to meet the crimping nuisance, and to kill two birds with one stone by showing Government that they are ready to co-operate with them on planting questions, and by making a serious attempt to meet a situation that is becoming intolerable. We suppose that it will be part of the duty of the newly-appointed Executive Committee, appointed to deal with the question of labour, to accept the invitation of Government, and submit a scheme.

We admit the serious difficulties presented in dealing with this question. It is that very difficulty that has given long and active life to the evil. But the position has become such that it cannot be allowed to continue much longer. It has been suggested that, if it could be made as expensive to recruit locally as it is to recruit in India, crimping would almost cease. That is very likely, for crimping is sustained by economic considerations. If an estate is not to save anything by local crimping, under general conditions, there would be no incentive to crimp. Of course, it must not be assumed that it is always the financial aspect that makes the appeal. An estate may find itself short of labour, and, in order to save the situation, recruit locally. Under such circumstances, the fact that it was as expensive to recruit locally as in India, or even more expensive, would not be a deterrent. The dire need is there, and has to be met. But the manager who allows the need to arise is not fit to hold his position. It is part of his job to so plan his work that he has always on hand a sufficient number of coolies, or at least sufficient to prevent the necessity for hurried and frantic crimping, and, if he fails to do so, he is failing in his managership, just as much as he would be, if he, through carelessness, allowed his output needlessly to fall. We are, therefore, faced with the fact that to make local recruiting as expensive as Indian recruiting would not be thoroughly effective, though we believe that it would have a very good influence. This question of crimping, it seems to us, can only be met by the introduction of much stronger measures than at present exist, and in this respect the registration of labourers would be found beneficial. But to make any measure effective, the combination of planters themselves is required, and if this is denied then we hold out little hope of ever seeing an end of crimping. The man who crimps is not playing the game. More than that, he is shortsighted, because he is supporting a condition of affairs that is bad for the industry, and which, in time, is certain to hit him and his estate.

ELECTION OF THE PLANTING MEMBER.

Only firms and persons, who on the 1st of August were entitled to exercise all rights and privileges as members of the U. P. A. S. I., or of Associations affiliated to it are to be entered on the Electoral Roll of the Planting Constituency, and only persons whose names appear therein can exercise the right to vote for, or nominate the Planting Member.

The preliminary roll was informally published on the 30th July, and notice given that persons claiming to be placed thereon should advise the Secretary of the U. P. A. S. I. before the 16th August.

It is believed that about 420 individuals and firms have the right to be included, but the Preliminary Roll, as informally published, contains but 223 names, made up as follows:—

Members of the U. P. A. S. I.		...	11
Do.	Anamalais Planters' Association	...	42
Do.	Bababudins do.	...	15
Do.	Central Travancore do.	...	27
Do.	Coorg do.	...	33
Do.	Kanan Devans do.	...	26
Do.	Mundakayam do.	...	13
Do.	Nilgiri do.	...	1
Do.	Nilgiri-Wynaad do.	...	12
Do.	North Mysore do.	...	...
Do.	Shevaroy do.	...	...
Do.	South Mysore do.	...	2
Do.	South Travancore do.	...	14
Do.	West Coast do.	....	9
Do.	Wynaad do.	...	18

Since the publication of the list, a further 74 names have been received, of these, six are inadmissable as not giving the father's name, and one is indescipherable.

There must be very many more names entitled to be included.

(Signed) H. WADDINGTON,
Secretary.

H. R. H. THE PRINCE OF WALES' RECEPTION COMMITTEE.

The Honorary Secretaries to this Committee have appealed to the Secretary, U. P. A. S. I. for the support of planters to the fund which has been started with a view to giving a fitting reception to H. R. H. The Prince of Wales, on the occasion of his visit to Madras during next cold weather. This seems to us essentially a matter for individual decision, and we, therefore, address each and every planter when we say that it is our duty to see that His Royal Highness does not gather the impression that we are apathetic in our welcome. The honour of the Presidency is at stake, not that of the City of Madras alone. A sum of three lakhs is required, and time presses.

INDIAN LABOUR.

Malaya's Competitors.

Ceylon's Position.

The *Times* of *Ceylon*, in commenting on the reports of the meeting of the F. M. S. General Labour Committee, after stating that the undoubted shortness of labour has frightened the planting community in Malaya very considerably says that the *Madras Mail* is doubtful whether all the heroic measures that Malaya can devise will obtain for it the vast labour force which it requires. The latter paper points out, however, that the better terms offered in Malaya are bound to be used as a lever to extract better wages and other concessions elsewhere, and that the effect in Ceylon and in the Madras Presidency is bound to be very far-reaching. The *Times of Ceylon* does not think it is sufficiently appreciated in Ceylon that a situation has arisen in India with regard to Labour that is without precedent and potent with trouble for outside employers. Indian newspapers are daily flooded with advertisements and prospectuses of fresh enterprises and commercial and industrial expansion on a gigantic scale is creating a competition for labour hitherto unknown and naturally, of course, placing the labourer in a position to earn wages that he was unable to do hitherto. The Indian Government, like that of Ceylon, has also concerned itself with the task of increasing food production, and in South India at least, on which Ceylon depends for its labour, an endeavour is being made to bring under cultivation every possible acre. The indigenous planting industry is also energetically pushing its propaganda, and as the demand for labour grows it must be drawn into greater competition with the outside employer. Nor is it with the domestic demand for labour alone that the Ceylon planter will have to reckon. Almost every country which employs Indian labour is nursing its interests, while in Mesopotamia we shall probably soon have a powerful, and possibly favoured competitor. With the situation as it is—and not to recognise it is to be wilfully and stupidly blind—it would be unwise if Ceylon did not immediately bring itself into line with other competitors for Indian labour, which is what the proposed Ordinance will effect. It must not be forgotten that the landlord class and other vested interests in India have always been inimical to emigration, and this attitude, it is to be feared, will be powerfully supported by Indian representation in the Reformed Councils. That the conditions of Indian labour in Ceylon and other countries will be made a plank of the Indian politician is not open to doubt. Ceylon has already attracted the attention of the political class, and at the recent Tinnevelly Conference, the following resolution was carried unanimously :—

This Conference requests the Governments of Madras and of India to urge the Ceylon Government to take immediate steps (1) to write off all debts of Indian emigrants on their plantations as per the strong recommendations of their Committee, (2) to abolish the Kangany and the commission system, (3) to fix minimum wages with limited hours of work, (4) to remove breaches of the Ceylon Labour Ordinance by labourers from the list of criminal offences punishable as such, (5) to improve the conditions of living generally, and (6) to provide two Indian representatives for their reformed Legislative Council to safeguard labour interests."

Resolutions of a similar nature are put at almost all political meetings of the day in Southern India.

"Therefore; it is extremely desirable that any cause for criticism should be removed as quickly as possible. Our contemporary thinks it is certain that the country whose Labour Ordinance or its conditions of employment contains anything obnoxious will be so harassed with restrictions that it will find itself unable to compete with others."

In conclusion the paper says:—"If Ceylon is to maintain her position then emigration from India must be made sound with the authorities, and conditions for the emigrant must be made much more attractive. How can this be done if the principal factors making for criticism on the one hand and discontent on the other are to be retained. Every company has foreseen this emergency, and nearly all have provided against it by building up a reserve against cooly indebtedness. The old and intimate connection of Ceylon with South India has stood us in good stead in the past, and if the disabilities attendant on the present labour system were removed, then the Island's geographicial position, its familiar associations with South India and its attraction of employment would still serve to place it at a distinct advantage as compared with other competitors."

The *Ceylon Observer* of July 5th has the following editorial:—

British Malaya, as with other places in the East, is getting the "wind up" a trifle over its labour question, and the first instalment of an important meeting held on the last day of May, which appears elsewhere in this issue, indicates how keenly the subject is being discussed. Rubber planters are especially interested, and as it is estimated that the production of a ton of rubber involves the labour of one and a half Indian coolies, it is argued that a labour force of 380,000 will be required to produce the 1921 crop of 253,000 tons. Requirements for other industries are equally enormous, and there promises to be keen competition for Indian labour during the next few years. Various causes are assigned for the labour shortage, and while we in Ceylon may find them useful in considering our own labour problems the report has particular significance for this Colony chiefly for the measures which are proposed in order to relieve this shortage. Mr. Oliver Marks, Government Controller of Labour, is well known in Ceylon as a former planter, and his views are interesting. He finds the position serious, but not nearly so serious as in other countries of the world, and with the co-operation of the Government and the planting community he anticipates finding a remedy. In order to find a solution he addressed a number of questions to the agents in South India, and these were agreed that a large number of immigrants could be secured if more Kanganies were sent over and distributed more widely. The Kangani gets at the present time a payment of ten rupees for every cooly recruited, and this is regarded as an ample fee, for if paid more it will be profitable for them to deal with professional recruiters, which both Malaya and Ceylon have found to be very undesirable. With regard to wages it is agreed that these are not sufficient bearing in mind the present rate of exchange, the dearness of food, and the restrictions in regard to rice supply. Propaganda methods were also strongly advocated, but the delicate nature of the ground to be trod in this direction is indicated by the statement that circulars which are distributed rather place things in a more favourable light than they are. A general increase in wages is held to be desirable while the provision of a Co-operative Society, with shops on the estate, is also advocated. Another suggestion put forward is the formation of estate villages in which the

chief features would be a really good water supply, a good system of bath houses, and a good system of dealing with the latrine question. Further proposals are the provision of schools on estates, and the engagement of letter writers. One Manager, it was said, employed a couple of letter writers who did nothing else but write letters for the coolies, the Manager paying postage and providing writing material, the only condition being the enclosing of a small pamphlet describing life on the estate. This Superintendent had no difficulty in getting as many coolies as he wanted without employing local coolies. The possibility of recruiting from other parts of India was mentioned, but this has not hitherto met with the approval of the Indian Government, and it is hoped to get coolies from Java, which, though not so difficult as many people think, has the demerit of being expensive, each cooly costing about 125 dollars to get on the estate. Planters, moreover, are to be encouraged to speak the language of the labour they employ, and Mr. Marks strongly emphasised that most of the complaints received by the Labour Department arise solely from misunderstandings which would not have been possible had the Manager and the cooly been able to understand one another. So strongly did he feel on the matter that he would make it a condition, if possible, for management, and certainly it should be a condition that an Assistant, until he could speak Tamil need not expect any substantial promotion. The difference between Malaya and Ceylon on this point was put forward, and if Malaya insists upon Tamil-speaking managers, and offers better wages, it is obvious that Ceylon will have in the near future a competitor for Indian Tamil Labour more to be feared than hitherto.—*Malay Weekly Mail.*

THE INDIAN TEA CESS.

At the last half-yearly Meeting of the Indian Tea Cess Committee, it was agreed to raise the incidence of the tea cess, as the amount now available from the cess, for the purpose of popularising the consumption and increasing the sale of Indian tea, is insufficient for the present and future activities of the Committee. The total collections for the year amounted to about Rs.5 lakhs, but of this amount Rs. 4½ lakhs had been spent on propaganda work in India, leaving practically nothing for the campaign in France, Belgium, Palestine and Egypt. Most of the bodies interested in the production of tea have agreed to increase the cess, but the South Indian Association in London has urged that the money thus raised should not be used for furthering the consumption of foreign teas in India. The Chairman of the Association, who was absent from the meeting, but whose address was read by the deputising Chairman, referring to this condition made by the South Indian Association in London, said :—"It is our contention that we have not directly spent money to further the consumption of foreign tea in India. But at one period, when it was not possible to get Indian tea to Bombay, owing to lack of transport, and rather large quantities of foreign teas were imported into India, we did not actively take steps to exclude such, for we did not consider such action desirable under the circumstances, as it would have undoubtedly tended to reduce consumption."

With all respect to the Hon'ble Mr. Samuel Best, we think that this contention is a little disingenuous. The matter excited a good deal of con-

troversy in planting circles in South India at the time, and Mr. Newby, the gentleman who is carrying on the popularisation campaign for the Indian Tea Cess Committee, was severely criticised at the time for the share he took in this matter. The whole matter was brought up at the meeting of the United Planters' Association, held in Madras two years ago, and Mr. Newby was sent to try and placate his critics for the part he had played in the matter. If the action of the Indian Tea Cess Committee had been merely the negative one of refraining from protesting against the importation of Indian tea into India, the quarrel would have had nothing to do with Mr. Newby, but would have been between the U. P. A. S. I. and the Indian Tea Cess Committee. It was Mr. Newby's action that was severely criticised, and, the sole point of the argument of the critics, was that a certain proportion of the funds of the cess was being used to further the interest of foreign tea, which was directly opposed to the object for which the cess was raised. Mr. Newby's attitude at the time was that, in the absence of India tea on the Bombay side, he, as the propagandist of the tea habit among Indians, was justified in using any tea that he could get. The argument, as we pointed out at the time, was singularly feeble. The proper course for the tea industry to have taken was to have brought pressure to bear to remove the transport disabilities, instead of supinely acquiescing in the import and use of foreign teas in competition with the home-grown article.

We only refer to the matter to correct what we take to be an ingenious justification of action which was severely criticised at the time, and the memory of which still lingers in the condition sought to be imposed by the South Indian Association in London. Since then, Mr. Newby has done good work in all parts of India in popularising the consumption of Indian tea. This is shown by the fact that, in certain towns, he finds the habit so well established that it is possible to close the campaign there and transfer operations to other less exploited centres. Among such tracts in South India is are the Kolar Gold Field, where the work has received much encouragement from the mining authorities. A fresh impediment to the campaign has, however, arisen in the high price of sugar, which has had the effect of raising the price of the cups of tea. This is a serious handicap. Tea drinking is an acquired taste, but, once it has been acquired, the absence of sugar has little or no effect in breaking people of the habit. This has been shown in England by the sugar shortage that has prevailed for some time. People, in increasing numbers, have become so accustomed to drink tea without sugar that they will not in any circumstances go back to the custom of sweetening their tea. But, with people who have not acquired the habit to that extent, it will not be easy to prevent them from being weaned from the practice of drinking tea. Mr. Newby's idea of making the "cups that cheer, but not inebriate," more palatable by the addition of salt is novel, and we wonder to what extent it will be successful. Among European tea-drinkers there are few, we think, who add salt to their tea to make it more acceptable when sugar is not available; but there are other tea-drinking countries in which the beverage is taken in a form that would be nauseating to English tea-drinkers. In Tibet, for instance, we believe tea is considered to be vastly improved by the addition of salt and rancid butter—the older and more rancid the latter the greater the luxury, while in Russia a "dash" of lemon takes the place of sugar.—*Madras Mail.*

INDIAN TEA ASSOCIATION.

The Indian Tea Association publishes the following figures for information :—

Exports of Indian Tea from Calcutta, Chittagong and South Indian Ports.

		1920. lbs.	1919. lbs.	1918. lbs.
Sailings to Great Britain from Calcutta in June 1920—				
Black ..	932,144	932,144	11,003,324	14,340,424
Green ...	*Nil.*			
Sailings to Great Britain from Chittagong in June 1920—				
Black ..	2,820,962	2,820,987	1,079,391	*Nil.*
Green ..	*Nil.*			
Sailings to Great Britain from 1st April to 30th June 1920 (including Chittagong).		30,778,380	53,614,795	56,423,012
Sailings to Australia and New Zealand in June 1920 ...		50,554	*Nil.*	384,245
Sailings to Australia and New Zealand from 1st April to 30th June 1920 ..		2,092,410	112,839	1,619,122
Sailings to North America in June 1920—				
Black...	67,184	67,184	20,792	33,132
Green .	*Nil.*			
Sailings to North America from 1st April to 30th June 1920 ...		1,169,287	991,721	284,342
Sailings to other places in June 1920 (see below :—				
Black...	1,172,954	1,172,954	853,432	847,474
Green...	*Nil.*			
Sailings to other places from 1st April to 30th June 1920 ...		2,828,115	2,649,540	5,127,349

The following are the shipments from Southern Indian Ports during the month of June 1920, *viz* :—

Cochin—
To Asiatic Ports ... 5,525 lbs.

Tuticorin (direct)—
To London ... 1,246,788
Colombo ... 92,027
1,338,815 lbs.

Tuticorin (*via* Colombo)—			
Quilon— *Nil.*			
Alleppey— *Nil.*			
Calicut — *Nil.*			
	1,344,340	238,028	1,426,238
Do do from 1st April to 30th June 1920 ...	5,879,068	5,763,611	5,650,644
Total Sailings from 1st April to 30th June 1920 ...	42,747,260	63,132,557	69,104,449
Daily Customs Entries for Export from Calcutta to Great Britain from 1st April to 30th June 1920 ...		19,337,029	
Black...19,337,029			
Green .. *Nil.*			
Do. from Chittagong—			
Black...9,860,190		9,860,190	lbs.
Green... *Nil.*			29,197,219
Do. from Calcutta 1919—			
Black...42,089,350		42,089,350	
Green... *Nil.*			
Do. from Chittagong—			
Black...5,250,028		5,250,028	lbs.
Green... *Nil.*			47,339,378
Exports from Calcutta to Bombay by rail from 1st April to 30th June 1920 ...		...	lbs. 2,557,687

* Exports of Tea from Ceylon as per "Ceylon Chamber of Commerce" Price Current Figures.

				lbs.
Total Exports from 1st January to 19th July,			1920...Black	100,494,167
Do.	do.	do.	...Green	1,739,967
Do.	do.	do.	1919...Black	98,951,269
Do.	do.	do.	...Green	1,116,418
Do.	do.	do.	1918...Black	88,487,317
Do.	do.	do.	...Green	821,753
Do.	do.	do.	1917...Black	97,385,632
Do.	do.	do.	...Green	1,511,810

* These figures are obtained from manifests completed up to 19th July, 1920, incomplete manifests prior to that date are not included

Statement showing the destination of exports of tea to sundry ports during the month of June, 1920.

	lbs.	lbs.
Aden	11,523	
Argentine Republic	281,415	
Chile	692,754	
Egypt	11,000	
Federated Malay States	1,500	
France	1,400	
Mauritius	1,710	
Peru	29,500	
Siam	600	
Straits Settlements	21,788	
Zanzibar and Pemba	6,400	
		1,059,590
Rangoon	95,419	
Akyab	3,060	
Bombay	14,525	
Port Blair	360	
		113,364
* Total...		1,172,954

* The above figures are included in the exports shown above.

NOTES AND NEWS.

The Planting Member.

Planters will welcome the return of the Hon'ble Mr. J. A. Richardson to this country after his brief visit home.

The Price of Tea.

The mail brings more cheerful news of a general improvement in the tone of this market, Good to Fine Teas being wanted at an advance of ld. to 2d. per lb. on the previous week's prices. In view of the note, we publish elsewhere on the subject of rubbishy teas, it is interesting to know that Plain and Common Teas showed hardly any improvement.

Coffee and Rubber.

This question of quality is one that requires attention. Naturally, during a crisis, only the best is attractive, and we have read somewhere that Coffee producers ruined their own market recently by endeavouring to fob off a lot of common stuff, in order to take advantage of the high prices ruling. As a result, buyers simply pick and choose, and the absence of demand from people who naturally refused to buy the rubbish which was offering brought prices down. This applies particularly to coffee other than East Indian, and some surprise is expressed at home that buyers are not a little keener on Mysore and Coorgs, which at present prices represent sound bargains.

Rubber Different.

With Rubber we come to a different aspect, as the lower grades are always in demand for cheaper articles, many of which do not necessitate a high-grade product in their manufacture. It often happens that standard qualities remain idle when lower grades are in demand. Stocks in London, by the way, continue gradually to increase, and are now nearly 24,000 tons. We still read in all directions, however, of the shortage which has been on its way since the armistice.

Ceylon Tea.

The Ceylon Chamber of Commerce Weekly Price Current, dated 2nd August, 1920, shows the following particulars of tea railed from Colombo and Galle to various destinations in India, *via* Talaimannar :—

Madras	....	1,625 lbs.
Badagara	...	2,160 ,,
Cannanore	...	446 ,,
Trichinopoly	....	700 ,,
Total	...	4,931 lbs.

The Anamalais Club.

In Coimbatore, we are looking forward to a visit from the Members of this Club at the end of the month, during which matches at Cricket, Tennis, Golf, Hockey, Bridge, etc., have been arranged. The opening day will be Saturday, 28th August, though serious competition will not commence till Sunday 29th.

New Uses for Rubber.

A recent article ("India Rubber Journal," May 8th, 1920), dealing with some "novel uses for rubber," described a hard rubber material which is stated to be admirably suited for panels for doors, furniture, pianos, and so on. An extensive use of rubber in the furniture trade would undoubtedly absorb a good deal of raw material, but the idea, however good, is not quite new. It will be remembered that, at the exhibition in 1914, a whole "rubber room" was displayed by the North British Rubber Company, and it is interesting to recall the reference to this at the International Banquet by the Chairman—the late Sir Henry Blake. He said: "……we can even see that beautiful furnished room, in which rubber has been employed from the carpet to the ceiling, including the papering and the curtains, the chairs, the tables and the sofa, entirely made of rubber. There was also, I remember, a rubber "mutton" bone, which caused some pleasant contention."

The Ceylon Blue Book.

The report on the Ceylon Blue Book for 1919 gives some interesting statistics of undoubted value to planters. During the year, we read that 208,433 578 lbs. Black Tea were exported, and just under 2¾ millions green Tea. The exports of rubber amounted to 100,392,831 lbs., more than double the 1918 figures. Cardamoms showed an increase of nearly 50% over the previous year, with an export of 561,244 lbs.

Causes of Deaths on Estates.

Of the total deaths registered on Estates in Ceylon during the year, 30 per cent. were attributed to pneumonia and influenza, and their rates per million of the estate population at the last census were 11,143 and 3,418, respectively, as against 21,871 and 6.053 in 1918. The death rate from debility (per million persons living) was 7,694, from diarrhoea 3,928, dysentry 3,559, anchylostomiasis 3,451, infantile convulsions 3,030, premature birth and congenital defects 1,097, bronchitis 914, phthisis 577, and from malaria and malarial cachexia 451. Forty-eight deaths from suicide and 13 from homicide were registered on estates, as against 41 and 10, respectively in 1918.

Are the Ceylon planters "swathed and bound in red tape" that they should bother about "eye wash" such as this? Or, are the figures an important contribution to the Statistics of the Colony, on which to base some idea of the problems with which the planter is faced?

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinion of its Correspondents.)

Increasing the Labour Force.

"I have gathered a posy of other men's flowers, and only the girdle that binds them is mine own."

Dear Sir,—Reference Mr. Martin's article in Chronicle No. 30, may I ask a few questions from him, a man having most intimate knowledge of our Tamil labourer, culled from his vast experience extending over half a century in India? These questions have reference to his statement:—"I have not found that young married woman postpone motherhood."

(1) How many miscarriages occur on his estate without his knowledge?

(2) How many occur with his knowledge, and for which his apothecary recommends the giving of "a few rupees to this sick cooly, Master?"

Perhaps these queries touch on the "many aspects of the question with which he has not time to deal," but, to the questioner, they seem more important than anything he has written:—for, during the last number of years, I believe, in his large district (and in most others) great care and expense have been expended on the children of the labour force, in short they have been working exactly on the lines he writes, and without publicity. From a man of his knowledge of the cooly, I and others look for some original ideas, and practical.

(Signed) XXX.

STATISTICS.

Dear Sir,—I also have read your articles on Statistics in the Chronicle of July 17th, and the reply it has drawn forth, from "One of them" in your issue of July 31st.

It is only too true that many consider statistics of any kind as eye-wash, with the result that passive resistance is, unfortunately, so general amongst Planters.

But surely a broader view should be taken in a matter of this sort? Where would the world be without statistics and figures? They enter into everything that has anything to do with business, these very progressive days.

Any Planter who works his concern in a business-like way, should be able to supply information such as been called from the U. P. A. S. I., without any difficulty, and still be able to attend to his practical work in the field, and be amongst his labour, to his heart's content. We grumble and grouse that the U. P. A. S. I., which a large majority of us subscribe to, do nothing for us in return for our money. We yearly complain at the Annual Meeting that Government do nothing but give us promises, which never come to anything, with regard our Railways; they are unable to repair our roads and communications, and so forth. I ask who is to blame for this state of affairs? Only ourselves, and those of us who like "One of them" adopt a passive resistance attitude, and look upon any information asked for as "Red tape."

Is it to be wondered at that we have nothing done for us, when we do not help ourselves ? We form our U. P. A. S. I., and we pay for it to do something for us, and represent our interests, as an important community. Yet many seem to think that once having paid their money, there the matter ends. To my mind our responsibility does not end here. We should do all we can to help our Association, and incidentally our District Associations, and make them as business-like Institutions as we possibly can. But how can this be done by the passive resistance attitude ?

" One of them " writes—" But spare, Oh spare us another Department." The remedy is abandon passive resistance, and all ideas of red tape, for if we don't, " that Department " may come, and our products be taxed for its upkeep.

The world is changing, and we must change with it, events are moving much faster than they ever have before, and, if we do not abandon this passive resistance attitude, and study what is going on around us a good deal more, a thing we could do with very great advantage to ourselves, then our crops, our coolies, whether of a " one horse show," a "tandem," or a " four—in—hand," will avail us nothing, and we stand a good chance of becoming non-existent as a Planting Community.

Yours faithfully,
" PLANTER."

FOR SALE.

Jackson Hybrid Coffee Seed from trees of 8th generation. Price Rs. 300/- per bushel. No orders for less than ¼ a bushel can be booked. Probable date of delivery January, 1921. Delivery on the Estate " Malishwar," Somwarpet, North Coorg.

Apply to **A. H. JACKSON,**
Dubarry, Pollibetta,
S. Coorg.

FOR SALE.

For fresh Vegetable and Flower Seeds, Economic and Ornamental

Apply—CURATOR,
Government Botanic Gardens,
OOTACAMUND.

Nearly a lakh healthy two years old tea plants in Balekhan Estate, Sallebile P. O.

Apply to :—
S. L. MATHIAS,
Coffee Planter,
Karkul P. O. (S. Kanara Dt.)

MISCELLANEOUS.

(A CARD.)

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L.D.S., R.F.P.S.. (Glas.),
DENTAL SURGEON.

Consulting Hours :—
(Daily except Thurs. & Sundays.)
9 a.m. to 12 noon | 2 p.m. to 4 p.m.

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Bangalore.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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OUR ANNIVERSARY.

Last year, writing two or three days before the Annual Meeting of the U. P. A. S. I., we offered a few remarks concerning ourselves, our critics and our *raison d' etre*, the U. P. A. S. I. It was our thirteenth birthday, and also the occasion of our first double number, coupled with the advent of a rather important meeting, so that we trust we were duly excused, allowances having been made by our friends for the particular circumstances under which this concatenation of events took place.

Well, this year it is our 14th birthday it is true, there is also an annual meeting in the offing, but the double number is lacking which is, in itself, of some importance, but there is also to our mind something else wanting to make up for the feverish excitement of last year, and we think of 1918. Musing on things as they are is not always a profitable occupation, although, sometimes, more profitable than musing on things as they were, while musing on things as they are going to be is attended often with graver risks than ever. Taking it all round, therefore, it is perhaps better to hit the happy medium of things as they are, and we must look to passing events to disclose the reason why the meeting, which commences at Bangalore on Monday, has so far crept upon us without the usual blare of trumpets, or the gradually approaching sound of the jingling accoutre-

ments of the invaders. And what of things as they are? Let us at once do what we have decided not to do and think of 1918, the idea of meeting in Madras, the opening by the Governor, the reorganisation, the promise not fulfilled, of "wigs on the green," what a glorious expectancy the delegates passed through for weeks before the meeting, and in 1919 was there not the echo of that great meeting still lingering with us, was there not a feeling of wonder as to how the new system was working and would work? What days they were, and how pleasant to consider them in the light, in fact, of things as they are?

We will dispose of our own affairs first. We have not been treated during the year, to our knowledge, to any criticism in the public press or, again to our knowledge, through any other medium, which is all to the good though we quite realise that the absence of criticism does not always mean the bestowment of praise. We have not even been damned with faint praise or as O. Henry has it "praised with faint damns" neither have we atta ned as we had hoped, that position among planters in S. Ind a which a S. Indian Planters' paper should reach, *viz.*, to become an important cog in the weekly wheel of work. In fact, although the Chronicle has been able to publish from time to time a few original articles from planters, we are very much "as you were" on that important point to which we referred last year, and until our readers take up pen and paper on our behalf, our present constitution must remain very much what it has been in the past. Apart from this, we have missed Mr. Anstead's articles very much, otherwise the even tenor of our way has not been distributed until last month, when the price of paper finally parted company with the outside limit and rose soaring into space.

Really, we think very much the same thing has happened to the U. P. A. S. I. Not that it has gone soaring into space (the imaginations of some of the delegates rise to some pretty dizzy heights at times, but they do not often get outside the influence of gravity represented in this case by the Chairman's hammer), but that there has been little to disturb the steady progress which the report of the Executive Committee shows to have been made. The report, in fact, contains much that is of interest not only to planters, but to the general public. It shows how, yearly, the extention of the Association's activities goes on and is eloquent of the varied interests involved, the importance of the Association's work generally, and in particular of the direct help it has been to planters individually and collectively throughout the Presidency. The enormous increase of work since the reorganisation two years ago is sufficient proof of the efficiency of the new machine, and if any tribute is needed to the present Executive Committee and officers of the Association, it is that the system now in vogue has successfully stood a strain under which the old organisation must necessarily have broken down with a resultant chaos in planting affairs in S. India.

This absence of chaos has seldom been more marked. The controversial points at present classed as "unfinished business" are few, in fact we can see none, though what delegates may have up their sleeves is of course yet to be seen. The Planters' War Memorial has raised a little flutter in the Mundakayam dovecotes, but apart from this there is absolute evidence of continuous and smooth working of the U. P. A. S. I. machine.

Exception may be taken to this, on the score of "labour," but then, labour like the poor planter is always with us, metaphorically speaking, and

those with whom it is not, may have ready the suggestion of a drastic remedy to cure, once and for all, this drastic disease. We have not hesitated to publish as frequently as possible in these pages, contemporary opinion on this all-important point. Planters have no excuse if they do not know the measures which are being taken by our competitors in Ceylon, the F. M. S., Burmah, etc. to get in ahead of us in our own recruiting grounds. It seems to us that the issue is clear enough; you don't get anything for nothing nowadays, and very little for fourpence, and that's that.

We have now to refer to the Chairman, Mr. Dandison, not because it i customary to do so, but because the position he holds is one needing arduous endeavour, and to have carried out one's year of office as successfully as Mr. Dandison has done, is to be able to lay down the reins of office with a feeling of having done a "job of work," in planters' *parlance* faithfully and well.

By the way, since we started with the subject of our anniversary, and have since forgotten it, here's many happy returns of the day to the "Planters' Chronicle."

CENTRAL TRAVANCORE PLANTERS' ASSOCIATION, PEERMADE.

Minutes of First Quarterly General Meeting of this Association, held at the Hospital on Saturday, August 7th, 1920, at 10 a. m.

PRESENT.—Messrs E. C. Sylvester, J. S. Wilkie, J. F. Fraser, G. S. Napier Ford, W. A. Asher, H. C. Westaway, A. R. St. George J. Wedderspoon, G. P. Farley, G. R. Moser, R. F. Vinen R. Tait. *Visitors*—Dr. H. M. McCormack, S. P. Peckover and W. A. J. Milne (Honorary Secretary).

The Chairman :—

"GENTLEMEN.—Since our last meeting we have to record the sad death of Mr. A. H. Gerrard, of Ladrum Estate, who passed away on the 23rd June. Mr. Gerrard was greatly respected and liked by us all, and I am sure you will all wish, with me, to express our deepest sympathy with Mr. and Mrs. Hawkins in their great less."

Passed in silence, all members standing.

1. The minutes of the Annual General Meeting and of the Extraordinary General Meeting of June 19th were taken as read and confirmed.

2. CORRESPONDENCE—(*a*) KOTTAYAM-KUMILI ROAD.—It was proposed by Mr. Farley, and seconded by Mr. Fraser, that the Honorary Secretary draw Government's attention to the fact that two bridges between Vandiperiyar and Kumili, which have been under repair for a considerable time, are not yet nearly completed, and that the work on them should be expedited.

The Honorary Secretary was also to write in supporting Mundakayam's request that a sum sufficient for the permanent improvement of the Mundakayam-Peermade ghaut road, (at present in very bad order on account of the heavy monsoon), be included in the 1920-21 estimates.

(*b*) BONAMI POST OFFICE.—It was decided to send a further reminder to the Postmaster-General, and to ask if the rule requiring the Travancore Government to furnish a financial guarantee for a new Post Office is a new one.

(*c*) PAMBANAR ARRACK SHOP.—A vote of thanks to the Excise Commissioner for his action in closing this shop was passed, which the Honorary Secretary was instructed to communicate to him.

(*d*) ELEPHANTS.—In reminding Government again *re* this subject, it was resolved that Government should be asked why elephants could not be caught at Vandiperiyar, as well as at Kumili, where kheddah operations were now in progress.

3. BANGALORE DELEGATES.—Mr. Wilkie proposed and Mr. Farley seconded :—" That our delegates to the Bangalore Meeting be Messrs E. C. Sylvester and W. A. J. Milner." Carried unanimously.

The delegates were duly instructed on the various items of the U. P. A. S. I. Agenda of interest to this Association.

4. L. A. N. I. and P. B. FUND.—The Honorary Secretary stated that nine members had subscribed to the L. A N. I., and 13 members to the Planters' Benevolent Fund, resulting in Rs. 190 and 160 having been remitted to each fund respectively. Additional subscriptions were promised at the meeting.

In reply to Mr. Tait, the Honorary Secretary informed him that, under the new L. A. N. I. Rules the Association subscription was raised to 20/ per member as from July 1920, and that subscribers with incomes of under Rs. 600 a month would only be charged Rs. 3-8-0 a day for a nurse, those with incomes over Rs. 600 4-8-0, as against non-subscribers' 10/

5. PLAGUE.—It was resolved to ask the Collector, Madura, to put up a segregation camp just outside Kumili, for coolies coming from districts in British India where plague and other infectious epidemics were prevalent.

A letter from the Travancore Sanitary Commissioner, notifying the appointment of a special medical officer with plague experience, was read and recorded with satisfaction.

6. TIMBER VALUES.—Government's order, dated 29th June, on the conference of 27th March was read and recorded.

7. PETROL SHORTAGE.—The correspondence on this subject was read, and it was hoped that the action taken by the Secretary, U. P. A. S. I. would result in an improvement in the situation.

As regards a district reserve for private supplies, it was felt that, though desirable, this would not be a practicable proposition at present.

8. CART HIRE.—Mr. Sylvester proposed from the Chair :— " That a Committee consisting of Messrs. Wilkie, Westaway, Fraser and Vinen sit at an early date and go into the rates, and fix what hire each estate should pay." Carried unanimously.

9. PLANTERS' HALL.—On Mr. Sylvester's proposal, it was decided that Mr. Moser should serve on the Committee appointed to go into the question,

in place of Col. Deane Drummond. The meeting was informed of what had been done as regards selection of a suitable site near Pambanar, and the Committee was asked to draw up a plan of the building and estimates, for submission to the next meeting. It was thought that a room 30'x 20' would be suitable.

10. WAR MEMORIAL.—The Honorary Secretary explained that, as soon as information had been obtained from the War Office regarding those men from this district serving in the war who had fallen, the order for the memorial tablet, which had already been sanctioned, could go forward at once.

11. OTHER BUSINESS.—As regards the Annual Road Committee meeting, it was thought that this could be held at the same time as the next P. A. meeting.

A proposal from the Chair that Mr. R. J. McMullin be appointed to the Committee in place of Mr. Ford, who was going home, met with unanimous support; the meeting then closing with a vote of thanks to the Chairman.

(Signed) E. C. SYLVESTER,
Chairman.

(Signed) W. A. J. MILNER,
Honorary Secretary.

Papers placed on the table:

Pamphlet *re* Motor Tractors.
Report of last Sri Mulam Assembly.
Indian Scientific Agriculturist.

WYNAAD PLANTERS' ASSOCIATION.

Proceedings of an Extraordinary General Meeting, held at the Meppadi Club on 11th August, 1920.

PRESENT.—Messrs W. Morres, W. G. Craig, J. C. Blackham, B. J. Blackett, S. H. Powell, W. Richardson, B. D. Darkin, E. E. Eyre, and J. A. Gwynne, Honorary Secretary. VISITORS.—Major Wills, Messrs C. C. Charsley and H. C. Davies. Mr. Morres in the Chair.

Proceedings of the last meeting were confirmed.

COOLY CHATTRAMS.—Letter from the President of the Calicut Taluk Board was recorded. It was resolved that members of the Association would inspect the Chattrams when passing, and report to the Honorary Secretary when repairs were required.

ROADS.—The bad portions of the Manantoddy-Tellicherry outlet road, it was reported, were being put in order.

The arrangement agreed upon in connection with the upkeep of the Vellaramulla road was that the Superintendent of Kardoora Estate upkeeps the first two miles, Chulika Estate the next two, and Puthoomulla Estate the balance.

POSTS.—Letter from the Superintendent of Post Offices, Malabar Division, in connection with the Meppadi Post Office staff was read, and it is to be recorded that the matter has been settled satisfactorily

MOTOR TRANSPORT.—The Honorary Secretary was instructed to ask the President of the District Board what has been done to strengthen the bridges and culverts on the main roads into the District, in view of the ever increasing motor transport.

The correspondence in regard to supporting the Nilgiri-Wynaad P. A. in connection with that Association's proposals to the Walford Transport Ltd., was recorded

INSTRUCTIONS TO DELEGATES.—The Meeting went into Committee to discuss the agenda of the U. P. A. S. I. Annual Meeting, and the delegates were given the necessary directions.

With a vote of thanks to the Chair, the meeting terminated.

(Signed) W. MORRES,
Chairman.

(Signed) J. A. GWYNNE,
Hon. Secretary.

NILGIRI PLANTERS' ASSOCIATION.

At a Quarterly General Meeting of the above Association, held at the Collector's Office, Ootacamund, on 9th July, 1920, the following members were present.

Messrs A. K. Weld Downing (Chairman), G. F. Weston Elwes, J. Harding Pascoe, S. C. O. Reilly, M. J. L. Hayne, C. St. John Ives, A. S. Dandison, W. A. Cherry, J. B. Leslie Rogers, E. Sydenham Clarke, J. Beaver Vernede, P. Beaver, R. Bake and A. N. Hearn (Hon: Secretary).

Visitors.—Messrs Lee Hart and H. C. Price.

I. Notice calling the meeting was read.

II. Proceedings of meetings of 29th April, 1920, 1st and 8th July, 1920, were confirmed.

III. INCORPORATION.—The Chairman pointed out that, in the Memorandum of Association, Section 2 read that the Registered Office of the Association shall be in Ootacamund.

Sir Robert Stanes having kindly assented to the Registered Office being placed at his Company's Coonoor Office, the Chairman put the alteration of the word "Ootacamund" to "Coonoor" to the vote, this was carried, the Section therefore reads that the Registered Office be at Coonoor.

IV. LEGISLATION.—Any discussion was held over pending the return of Delegates from U. P. A. S. I. Meeting.

V. COMMUNICATIONS.—Mr. Lee Hart being present, gave members all information he could as regards the proposed electrification of the Nilgiri Railway, and the following resolution, proposed from the Chair, was carried unanimously

In view of the increasing difficulties and expenses of carting, the S. I. Railway Authorities be asked to improve communications between Kullakambay and Kateri Road Station on the Nilgiri Railway, by the provision of a Tramway, Ropeway, or Motor Lorry Service.

The Chairman read letter from Messrs L. Gillanders, Arbuthnot & Co., Madras, regarding Ropeway, and it was resolved that the following Committee be appointed to consider the scheme of a Ropeway for the Kotagiri side of the plateau.

Committee.

Messrs. E. Sydenham Clarke, W. A. Cherry and J. Beaver Vernede. The Chairman then brought forward the matter of increasing the accommodation for goods at the Kateri Road Station, which he said had been hanging fire for a long time. Mr. Pascoe also remarked on the great losses likely to occur owing to insufficient accommodation for consignments of very valuable and soluble manures which came up, and remained at the station in the open; also tea cases were greatly delayed there pending shipment to the Coast, owing to restriction of traffic on the West Coast line. Mr. Lee Hart explained the situation, after which the following resolution was put from the Chair, and carried unanimously.

That, owing to the shortage of accommodation for goods traffic at Kateri Road Station, this Association is of the opinion that whatever space is *now* available to increase the Goods-shed, be utilized by the Railway Administration at a very early date.

The Chairman proposed a very hearty vote of thanks to Mr. Lee Hart, for the trouble he had taken in coming to the meeting, and for the information he had given them, and he was sure Mr. Lee Hart would do his best for them in the matter of increased accommodation at Kateri Road Station. Carried with acclamation.

VI. LOCAL FUND BOARD HOSPITALS.—Read letter from Mr. C. St. John Ives, and Honorary Secretary's reply thereto, with which the meeting were in agreement.

VII. ELECTION OF DELEGATES TO U. P. A. S. I. MEETING.—The following resolution, proposed by Mr. E. S. Clarke and seconded by Mr. Cherry was carried: —

"That 3 delegates be sent to Bangalore to attend the U. P. A. S. I. Meeting."

Voting then took place with the following result. Messrs J. B. Vernedes J. Harding Pascoe and A. K. Weld Downing. Mr. J. H. Pascoe regretted his inability to attend the Meeting, and the next on the list. Mr. E. S. Clarke, was therefore elected in his place.

VIII. U. P. A. S. I. AGENDA AND INSTRUCTIONS TO DELEGATES THEREON.—The Agenda was gone through, and the delegates instructed accordingly.

IX. MISCELLANEOUS CORRESPONDENCE.—

(*a*). Read letter from the Secretary, U. P. A. S. I. with reference to Railway accommodation for delegates travelling to Bangalore, the Hon: Secretary was instructed to write informing the Secretary, U. P. A. S. I. that Mr. E. S. Clarke would require accommodation on 21-8-1920.

(*b*). Read G. O. No. Mis 1294 notifying that Mr. P. E. Achard is authorised to attest the execution of labour contracts. (Recorded). With a vote of thanks to the Chair, and to the Collector for the use of the room, the meeting terminated.

(Signed) A. K. WELD DOWNING,
Chairman.

(Signed) A. N. HEARN
Honorary Secretary.

A Presentation.

After the close of the meeting, a presentation was made to Mr. A. K. Weld Downing in recognition of the good work done by him during the period he acted as Honorary Secretary. Mr. P. Beaver, in making the presentation, referred to the indebtedness of all members to Mr. Downing for arranging Grain and Kerosine oil supplies, and also for arranging sale of tea to Persia, and expressed the thanks of all.

Mr. Downing, in reply, thanked members for their appreciation of his work, and expressed the honour he felt in receiving the presentation, as this constituted a record in the annals of the Association.

(Signed) A. N. HEARN,
Hon. Secretary.

BABABUDIN PLANTERS' ASSOCIATION.

Proceedings of a Quarterly Meeting of the above Association, held at the Siddabile Bungalow on Sunday, 8th August, 1920 at 2 p. m.

PRESENT:—Mr. S. H. Dennis (Chairman), Messrs. N. G. B. Kirwan, Meppen, E. H. Thompson, Sylk, W. R. Thomson, F. Hugonin, and Wilson (Honorary Secretary). *By proxy.*—Messrs. Lincoln and Dunhill. *Visitor.*—Mr. J. Hugonin.

(1) THE FIRST ITEM ON THE AGENDA—INCORPORATION—the paper was read and signed by seven members, and is now complete.

(2) LABOUR RULES.—These were carefully gone through, and it was proposed by Mr. Kirwan and seconded by Mr. W. R. Thomson, that these rules be accepted, which was carried *nem. con.*

(3) COOLIES' WAGES.—Mr. Wilson spoke at length on this subject, when a keen discussion followed, Mr. Wilson finally deciding to ascertain from the North and South Mysore Planters' Association whether there was any chance of rates of labour being raised in the near future, in face of the fact that Coorg and other places have already raised their rates to 6 and 4 annas. Mr. Kirwan then proposed, and Mr. Hugonin seconded, the following

resolution :—That in the opinion of this meeting, it was more advisable to supply our labour with grain than to increase the rates of pay. The rates for grain should be agreed upon by the members of this Association. This was carried.

(4). LOCAL CURING WORKS.—Mr. Kirwan made a very interesting speech, in the course of which he pointed out that the Mysore Associations had for about 60 years been trying to get a railway to the West Coast. But, up to date, they had only achieved a railway tax.

The popular cry was now for mechanical transport. Could this, he wondered, compete with the bullock cart for cheapness? At present prices it might, but if the distance the coffee had to be sent was reduced by some 50%, the difficulty to transport would be solved.

He then went on to say that it was a well known fact that the grower was the only person to lose money on coffee, and suggested him taking a share in the more profitable part of the venture, in short, he advocated planters uniting and having their own Coffee Curing and Manure Works at a central place, Chickmagalur for choice, as it was in the midst of a large coffee area, the port would be Bombay, which was open all the year round and approached by the M. & S. M. Railway, and not by fortnightly steamers for only a certain portion of the year.

There was already a large coffee market at Chickmagalur, where some 1,000 tons or more of native coffee was dealt with annually by hand labour. This business would naturally find its way to the works, as the advantages of machine cleaned coffee over hand are great and many, besides saving of labour.

As regards manure, bones were available in Mysore, poonac could also be had, and if the ryots knew there was a good market they would grow the oil seed fast enough. Mysore can produce its Nitrogen and Phosphoric acid, and Potash could be imported from France. As a result, there would be a saving of about Rs. 32, or thereabouts, per ton on what we now pay for manure.

It was necessary to raise fully rupees two lakhs as capital, and to find a man to run the works. As to the former, though this was not the time to purchase machinery owing to the tremendous increase in prices, the saving on manure, if 25,000 acres joined in, would give that in one year.

It was proposed by the Chair, and carried, that Mr. Kirwan be appointed by this Association to push his scheme of Curing and Manure Works at Chickmagalur

(5) ROADS.—The Hon. Secretary be asked to write to the Ex : Engineer, and thank him for his letter of 30th March in *re* the Kulhuttipur—Save, and Sakrapatna—Hospet roads, and to ask him to expedite the rolling of metal on the Birur—Lingadhully, Lingadhully - Kulhuttipur, and Tarikere—Chickmagalur roads.

(6) ELECTION OF DELEGATES TO U. P. A. S. I.—Messrs Dennis and Kirwan were elected, but Mr. Kirwan declined the honour, as he would not be able to attend. Mr. Dennis was then elected the Delegate.

(7) THE U. P. A. S. I. Agenda was gone through, and the Delegate received his instructions.

The meeting terminated with a hearty vote of thanks to Mr. Dennis for the use of his Bungalow, and his hospitality to all the members present.

(Signed) SAM J. WILSON,
Hon. Secretary.

WEST COAST PLANTERS' ASSOCIATION.

Annual General Meeting, held at Cochin, on August 7th, 1920.

MEMBERS PRESENT.—Messrs. A. H. Mead, A. C. Morrell, A. W. Knight, H. Walmesley, H D. Middleton, G. L. Martin, A. R. Shaw, G. Bayzand, S. P. Eaton (Hon. Secy.)

CHAIRMAN'S SPEECH.—The Hon. Secretary regretted that, owing to the absence of Mr. Campbell Hunt, now on leave in Europe, there could be no Chairman's speech. Mr. Mead was voted to the Chair.

The Hon. Secy before opening the meeting regretted to have to announce the decease of Mr. R. de. Roos Norman, of the Cochin Rubber Co, and proposed that the Association write to convey its sympathy with his wife and relatives. Carried in silence, all standing.

MINUTES OF THE LAST MEETING.—These were taken as read.

ELECTION OF OFFICE-BEARERS, 1920-21.—The following members were elected by ballot;—Mr. S. P. Eaton (Chairman), Mr. G. Bayzand (Honorary Secretary), Messrs. A. H. Mead, R. Lescher, H. Walmesley, and A. C. Morrell. Committee.—Messrs. A. H. Mead and A. C. Morrell (General Committee, U. P. A. S. I.). Mr. Eaton then took the Chair.

INCORPORATION.—The Articles of Association were passed round and accepted, and the necessary signatures were attached.

ROADS AND COMMUNICATIONS.—Proposed by Mr. Morrell and seconded by Mr. Knight—"that this Association calls the attention of the Chief Engineer, P. W. D., Trivandrum to the appalling state of the road from Moovatapuzha to the Cochin boundary on the Moovatapuzha-Ernakulam road."

Proposed by Mr. Walmesley and seconded by Mr. Middleton—"that this Association begs to bring to the notice of the Dewan of Cochin the state of the 3 miles of road between Naruntapilly and the estates, and requests him to order a report to be made. It draws his attention to the fact that this road is impassable for wheeled transport which has made it almost impossible to supply the labouring classes with foodstuffs."

THEFTS ON RAILWAYS.—Resolved—"that the Hon. Secy. be requested to call to the notice of the Railway authorities to the continued thefts on the S. I. R. of goods forwarded on owners' and railway risks."

NEW RECRUITING AREAS.—This Association records with thanks the letter from the Secretary, U. P. A. S. I., *re.* new recruiting areas in the Central Provinces, but that it is not at present interested.

DELEGATES TO THE U. P. A. S. I.—It was unanimously passed that Messrs. R. Lescher and A. C. Morrell represent this Association at the Annual General Meeting of the U. P. A. S. I. to be held at Bangalore on August 23rd.

Proposed by Mr. Mead and seconded by Mr. Walmesley that Rs. 200 each should be voted to the delegates for expenses. Carried.

INSTRUCTIONS TO DELEGATES.—The agenda for the forthcoming meeting was discussed, and the delegates duly instructed.

PLANTERS' WAR MEMORIAL.—It was decided that the Delegates support the Executive Committee with regard to the distribution of the funds.

LABOUR LAWS.—It was proposed from the Chair that Government be asked to bring Act I of 1903 into force in Malabar in preference to Act 12 of 1920, as Mr. Eaton considered that the latter act would be of very little use to the Planting Community.

MR. MCRAE.—It is with much regret that this Association learns of his departure as Mr. McRae has always shewn invariable interest in Planting matters, and has always gone to infinite personal trouble in experimental work towards furthering the industry. All success is wished him in his new work.

SUBSCRIPTIONS.—It was resolved that subscriptions remain as at present, namely one anna per acre to the Association.

ANNUAL ACCOUNTS.—Mr. Eaton, as the resigning Honorary Secretary, apologised for not having the accounts ready, but stated that this was due to illness and clerical shortages. They would be placed on the table at the next meeting.

DATE OF NEXT MEETING.—That the next meeting be held on the 3rd Saturday in October at Mooply, Mr. Mead kindly offering his hospitality which will be gratefully accepted.

With a vote of thanks to the Cochin Club for the use of the room, and the usual vote of thanks to the Chair, the meeting terminated.

(Signed) S. P. EATON,
Chairman.

(Signed) G. BAYZAND,
Honorary Secretary.

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, on 3rd August, 1920.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON).—Letters, dated 1st and 8th July, from the Indian Tea Association (London), which had been circulated, were now to be recorded.

(*a*) *Food Controller—Extra cost of production in 1918.*—In the proceedings of 20th July, 1920, reference was made to the rejection by the Food Controller of the Committee's contention that payment of this extra $\frac{1}{4}d$ per pound should, in the case of Indian controlled concerns, be made in Calcutta in rupees calculated at 1s./4*d*. per rupee, and paid at the current rate of exchange. The Food Controller had agreed to arrange for arbitration as demanded by the London Association, but, before proceeding to appoint an arbitrator, he had suggested that this matter might be settled amicably between the legal advisers to the Ministry and the London Association's solicitors. The London Association had been asked whether such a discussion would be acceptable, and it was now noted that this suggestion had been agreed to. Further advices were to be awaited,

(*b*). OPTIONAL BILLS OF LADING.—Reference has been made in past proceedings to the correspondence which has been exchanged with the Calcutta Liners Conference regarding the practicability of re-introducing the pre-war system of optional bills of lading. The matter had been referred home to the London Conference, who had expressed the view that the time was not opportune to revert to the pre-war practice of granting optional bills. The Committee were not satisfied with this reply, as they understood that the Clan Line were already granting such facilities in respect of shipments from Chittagong. They accordingly took the question up with the London Association, who were asked to press the matter strongly on the home Conference. The former advices from the London Association indicated that the home Conference were not prepared to change their attitude, and the advices since received showed that the London Conference still maintained that the existing difficulties in connection with transhipment cargo in London forbade a reversion to pre-war conditions. The Committee were inclined to feel that this attitude was perhaps justifiable under existing conditions, but they were pleased to note that the London Committee had undertaken to raise this question again when the position becomes easier.

REGULATION OF SHIPMENTS OF TEA FROM INDIA.—In the proceedings of 20th July, members were advised of the steps being taken by the Committee to reduce monthly crop shipments to the 5% margin, which had been agreed upon. Members of the Association had been circularised in the matter and asked to co-operate in bringing about the reduction desired. Similar assistance was asked from the Calcutta Liners Conference, and the Calcutta Tea Traders Association, and, in the meantime, it was arranged for the Committee to keep a keen watch on shipments, with a view to gauge how the situation was progressing.

A letter, dated 26th July, from a member of the Association, along with replies, dated 29th July from the Calcutta Liners Conference, and the Calcutta Tea Traders Association, respectively, were now discussed. The member suggested that the situation appeared to call for a meeting of producers and buyers, in order to arrive at some agreement which would bind all shippers to regulation on the lines proposed. The Liners Conference explained how it would not be practicable for them to ration the tea in the manner suggested by the London Association, and the Calcutta Tea Traders Association,

while promising every possible assistance in the desired direction, regretted that they could not dictate to buyers regarding their shipments, and at the same time pointed out that most of the buying firms were branch houses, which must act as instructed by their head offices. These communications made it clear that the co-operation aimed at could not be secured. At the same time the Committee noted, from the statistics beside them, that shipments for the month of July were well within the 5% margin. There was not, therefore, any need for immediate action. But it was also noted that a considerable quantity of tea had already been shipped in a vessel which was expected to take to Manchester the bulk of a large order which recently reached the Calcutta market. The Committee felt that the position herein revealed, and their ideas regarding it, should be communicated immediately to the London Association, to whom it was ultimately decided to despatch a cable in the following terms:—

"My cable 21st July buyers unable to co-operate also Liners Conference. During second half July over 800,000 pounds tea shipped direct to "Manchester on buyers account. If London marks continue to be sold in "Calcutta for shipment to the United Kingdom Committee consider this "will nullify agreement to restrict shipments and retain 1920 crop till 1919 "is disposed of."

COMPLAINTS REGARDING TEA SHIPMENTS FROM CALCUTTA.—In a letter dated 29th July, a member of the Association furnished the Committee with advices which had been received from London regarding mistakes made in connection with teas shipped from Calcutta. It appeared from these papers that, against an invoice of Pekoe Souchong tea from the member's garden, a landing account had been received in London showing that four chests of Pekoe Souchong were short received, and four chests of other qualities delivered instead. It was suggested that this error might be due to the congestion in the tea transit sheds and the tea warehouses, and the Committee were asked to take up the question with the authorities concerned, in order to avoid a recurrence of such mistakes.

The Committee were agreed that this matter should be brought to the notice of the Port Commissioners and the Inland Steamer Companies, and they directed the Secretary to act accordingly.

INTERNATIONAL LABOUR CONFERENCE AT WASHINGTON—FACTORY LEGISLATION.—In a letter, dated 22nd July, the United Planters' Association of Southern India enquired whether the Association had received any references from Government regarding the recommendations of the above Conference which foreshadowed amendments of the Indian Factories Act. Reports had evidently been appearing in the local newspapers, indicating that a Committee appointed by the Government of the Punjab had passed resolutions in favour of tea and indigo factories being brought within the scope of the provisions of this Act. The United Planters' Association were strongly opposed to the action suggested by the above resolutions, and the views of the Committee in the matter were invited. The Committee have informed the above Association that they had not received any such references from Government, nor had they seen the newspaper reports in question. They have also pointed out that the Indian Factories Act does not apply to "any factories situated on, or used solely for the purpose of a tea or coffee plantation," and that any proposals to bring tea factories within the scope of the Act would be strenuously opposed. The United Planters' Association of Southern India has accordingly been asked to furnish the Committee with copies of any references received from Government, on the question of amending legislation of the Factory Act, along with copies of the newspaper reports in question, and a reply to this reference is now awaited.

INDIAN ARMY RESERVE AND EX-REGULAR OFFICERS FOR EMERGENCY SERVICE.—With a letter, dated 17th July, the Surma Valley Branch forwarded copy of a letter, dated 2nd July, from the Assam Secretariat, asking for an estimate of the number of Indian Army Reserve and Ex-Regular Officers who had served during the war and who would be available, as volunteers, with the consent of their employers, should need arise. It was pointed out that the Branch could only furnish a list of men who would be prepared to volunteer for service should need arise, but that the extent to which such officers could be regarded as "available" rested for decision with agency firms in Calcutta, and Boards of Directors at home. Enquiry was made as to how the required list should be prepared.

The Committee were agreed that this was a question which must be referred to employers for decision. Their opinion was that no planter should be called upon for service outside his province except under very grave emergency. They noted, however, that the text of the new Auxiliary Force Bill, which would provide a new force to replace the Indian Volunteer and Indian Defence Forces, had recently been published. This being so, it was decided to suggest to the Surma Valley Branch that the statistics asked for by the Assam Administration might not now be required.

Reclamation Work on Worn Tea Estates.

BY "SYLHET PLANTER."

This is a subject which often crops up for discussion, and although many divergent views are ventilated with regard to it, in practice we find that most planters set about the work in the same general way.

It is agreed that a garden can more easily be allowed to deteriorate than it can be brought round again, and may take a much longer time to do it. The time taken to reclaim a garden from an all round backward condition will depend almost entirely upon the garden itself in the first place—there have been gardens which have been abandoned altogether as being considered irreclaimable. There are gardens which have been abandoned in former years without an effort being made to bring them back to a state of profitable fertility. This in many cases, was advisable when there was plenty of fresh jungle land to open out, as it was calculated it was more economical to open up a new extension than to spend money upon reclaiming land which had been badly washed and probably growing in inferior 'jat' of bush. In these days of comparative land scarcity there is not only more reclamation work done, but much greater care is taken of what is in good condition in order to render reclamation unnecessary.

RESTORING ORGANIC MATTER.

This is considered the first work to be undertaken in the process of renovation, but different ideas exist amongst planters as to the most economical and quickest manner this is to be accomplished. Some planters appear to be of opinion that, in order to bring the soil back into condition in regard to its humous content all you have to do is to start right away and grow leguminous green manuring crops. Those planters who have had actual practical experience in such work inform us that the soil must be brought into a condition which will enable it to grow such a crop in the first place. This in itself will not be done in one year. A leguminous crop, despite the fact of its being capable of getting its nitrogen from the illimitable supply existing in the atmosphere, through the agency of certain forms of bacteria, will not succeed upon an exhausted soil. There is nothing simpler to grow than a

green manure, but it must have a soil in fairly good condition before it will do much towards adding organic matter. Another important and usually very much neglected source of organic matter is the cattle manure and rubbish about the cooly lines.

PERMANENT MANURE PITS.

In this connection the most noticeable circumstance is the fact that at one period of a garden's lifetime it may have thoroughly up-to-date structures for the proper control and preservation of the line manure while in the following decade these same structures may be in such a dilapidated condition as to be useless for the purpose for which they were constructed. This may be due to several causes, but one of the most prominent is change of management. Some of our Calcutta agencies have adopted standard plans for pucca manure pits, and it is rather strange that such are not in evidence, at least upon gardens which are under their control. There are, however, some to be seen, but the line sweepers appear to prefer throwing the manure all round the covered pit, right under the eaves where all the water from the roof drops upon it, and, of course washes all its most valuable constituents away into the nearest nullah. When the start is made with an empty pit everything is all right. The manure is thrown in from all sides through the opening left for the purpose between the top of the enclosing three feet wall and the eave But the manure is not levelled back to the centre, and, as time goes on, the opening gets filled up giving the appearance to the casual observer of the pit being chock full when it is really as nearly hollow as a nut that has been kept to the second hallow-een.

If the manure were levelled back to the centre every day this could not occur, and it ought to be considered the line chowkidars' duty to see that this is daily attended to Under present careless methods, when the opening at the wall-top is filled up, the manure may extend all round the structure for a distance of anything from four to twelve feet, and this, of course, is exposed to even more than the rain that falls on this space as it actually receives the water from the roof which is protecting an empty pit.

HOW MANY YEARS WILL BE REQUIRED FOR RENOVATION ?

The time it will take to bring a garden round to tip-top condition from general all round deterioration with, say, 25 per cent. of vacancies, and the rest of the bushes in a moribund state has been asserted by planters who have actually "come through the mill" to be not less than 10 years. This appears to be a long time, but it is not meant to convey the idea that the garden may not pay a dividend on its capital during this period. It takes a much longer time to bring an infilled vacancy into full bearing upon such a garden than it does to bring a well-planted new extension into the same state. The soil even on moderately level land, will have to be brought into condition and, as a rule, organic matter will be at the lowest point. It will take several years of work to bring this state of things into a satisfactory condition. The bushes will be hide bound, and to a large extent, in a coppiced state. This will necessitate very heavy pruning perhaps to the collar. The root range of the plants will have been curtailed by inefficient cultivation, and until this is remedied the collar prune may prove a disastrous operation. When everything is taken into consideration ten years would appear at least the lowest estimate of time required to reclaim a worn-out, neglected garden.—*Indian Scientific Agriculturist.*

Variation in Phosphorus Content of Slag.

In the presidential address given before the Iron and Steel Institute on the occasion of its annual meeting recently held in London, Dr. J. E. Stead F.R.S., said:—

"Soon after the introduction of the basic Bessemer process considerable quantities of basic slag containing between 16 and 20 per cent. of phosphoric acid, were produced, and the question of its possible commercial value as a fertiliser was raised. Before any experiments were made researches in my laboratory proved contrary to the opinion of some authorities, that the phosphorus was in combination with lime, and not with iron. He concluded that the only possible way to utilise the slag for agricultural purposes was to grind it into fine powder and place it direct on the land. Agricultural chemists simultaneously came to the same conclusion, and experiments were made by Professor Wrightson in England and by Wagner in Germany which proved the correctness of these conclusions; but long before our farmers would look at basic slag, huge quantities of the raw material were sent to Germany, and there used successfully upon the land.

In 1887, I gave a lecture on the subject to the farmers in the Yorkshire district, and presented evidence that basic slag was the cheapest source of phosphoric acid, but the farmers would not have faith unless they were shown practical results on the land. It took many years to convince them of the great utility of basic slag. At that time, 1887 and onwards, there were in existence enormous dump heaps of puddling cinder containing between 50 per cent. and 55 per cent. of iron and from 3 per cent. to 5 per cent. of phosphorus—material which previous to the advent of the basic process was regarded as unfit for anything. It was soon found to be absolutely necessary to make special iron for the basic Bessemer process, and it was realised that basic pig should contain very little silicon, about 1 per cent. instead of 2 per cent. to 3 per cent. which element required to be replaced by another yielding heat on combustion in the converter.'

Instead, therefore of the 1¼ per cent. to ½ per cent. of phosphorus normally present in pigs made of native ironstones, it was raised to from 2 per cent. to 2½ per cent. by the addition to the burden of puddling cinder. In a few years practically the whole of the accumulated heaps of cinder were exhausted, and it became necessary in this country generally to buy what puddling cinder was currently produced, or to purchase other material rich in phosphorus from abroad; such as Belgian phosphates, Swedish phosphoratic ores, etc. As long as the Bessemer process was dominant the slags produced were very rich in phosphorus, very soluble, and in every respect ideal for the use of the farmer. In proportion as the basic open-hearth process replaced the other, high phosphorus not being necessary in the pig, normal iron containing from 1¼ per cent. to 1½ per cent. of phosphorus was used instead.

The slag produced from the open-hearth process now varies in percentage of phosphoric acid from 9 per cent. to 13 per cent. excepting when the Hoesch process is employed. In this process the purification is divided into two parts the phosphorus being concentrated in slag first produced—the second slag obtained from the further working of the steel containing a very much smaller percentage. Further, in very many cases, solubility of the open-hearth slag was gradually lessened in consequence of the necessity for using fluorspar or chloride of calcium. To-day, therefore, the valuable high percentage highly-soluble slags are reduced to a minimum, and agriculturists are clamouring for richer and more soluble material."

Progress in Air Nitrogen Recovery.

The recovery of nitrogen from the air is at present one of the most attractive problems for scientists. The Haber process which Germany used during the war, seems to be the basis of experiments in every civilised country. The United States was ready, when the armistice was

signed, to try a modification of the Haber process, which may yet be tested on a commercial scale. A French chemist recently announced an improved process, which is to be tried out on a large scale. The latest news is from Italy, where a prominent chemist, Dr. Casale, claims to have perfected a process which is much more efficient than any heretofore known.

A common feature of all these synthetic processes is that they operate at great pressures. The Haber process—if the Germans told the truth about it—works at a pressure of about 5 000 pounds per square inch. The process which the United States proposed to use requires much less. The French experiments have been carried on at an enormous pressure—claimed to reach 15,000 pounds. The Italian method uses about 3,700 pounds. Recent developments in the metallurgy of steel alloys make such pressures practicable.

It may require years of work to make any of these inventions commercially profitable. They may never be able to compete with other forms of nitrogen in the open market. But the Haber process is theoretically far in advance of any previous method of recovering air nitrogen, and it is a hopeful sign that so many trained minds are working on the problem. There is urgent need everywhere of cheaper nitrogen, which means cheaper food.

SOURCE OF NITRATE OF AMMONIA.

Prof. Carelli, of Turin, has lately been carrying out experiments with a view to the extraction of nitrate of ammonia from surplus stock of explosives. According to an article in *La Nature*, the explosive is allowed to stand with a fixed quantity of water in special vessels. A concentrated solution of nitrate of ammonia is thus formed and is separated by decantation. Powdered peat is then added to this solution, and the product obtained after mixing and drying is a species of manure called "nitric peat." This material which has the appearance of a blackish powder, gave the following analysis: Water 17·8 per cent; ash 18·8 per cent.; nitrate of ammonia 42·8 per cent: organic matter 20·6 per cent. Tests for ascertaining its value as a fertilizer have been carried out, and the results show that its action is nearly equal to that of nitrate of soda.—*Indian Scientific Agriculturist.*

NOTES AND NEWS.

The Union Agency.

We draw attention to the prospectus, which is published is this week's issue, of the Union Agency. This Agency has been the pioneer of a business closely concerning the very large and important agricultural section of the population of India. It has been for some time prominent in the matter of Potato Cultivation in Western India, and in its new form the company should continue to do useful work in this and other directions.

A New Company.

Kerala Calicut Estate, Ltd.—Registered July 14th. Capital, £250,000 in £1 shares. To adopt agreements with the Kerala Rubber Co., Ltd., Calicut Estate Syndicate, Ltd., Wandoor Syndicate, Ltd., and Cochin Sholayar Chemoni Co, Ltd., to carry on the business of cultivators of rubber tea, cocoanuts, coffee, pepper and other produce, etc. Minimum cash subscription, £7. The first directors are W. L. L. Grant, Craigelachie, Keswick Road, Putney, S. W.; O. A. Bannatine, Green Meadows, Ascot, director Stanmore Anamallay Estates Co, Ltd.; C. H. Browne, Kerkie Coondah, Sallebile, Kadur District, South India; H. Edgington, 40, St. George's Court, Gloucester Road, S. W. director Sungei Rinching Estates, Ltd.; C. E. Welldon, Beech Lawn Tonbridge, director Java Investment and Agency Co., Ltd, Registered office: 17, Gracechurch Street, E. C.

Company Reports.

Malayalam Rubber and Produce Co.—The rubber crop harvested during the past year amounted to 1,752,709 lb., as compared with 1,519,844 lb. in 1918. The accounts of company show a net profit of £85,728, which with the amount brought forward makes a total credit balance of £101,910. Out of this, it is proposed to pay a dividend of 12½ per cent., which will absorb £62,500, and transfer £15,000 to the development reserve fund. A balance of £24,410 is left to be carried forward.

Ceylon Tea.

Extract from the "Ceylon Chamber of Commerce" Weekly Price Current, dated 9th August, 1920 showing particulars of Tea railed from Colombo and Galle via Tallaimannar to various destinations:—

Trichinopoly	...	70 lbs.
Pattukottai	...	120 ,,
Ramnad	...	118 ,,
Total	...	308 lbs.

The Annual Meeting.

The following changes in the list of delegates are notified:—South Mysore P. A.: Mr. T. Anderson for Mr. C. J. Hayward. West Coast P. A.: Messrs R. Lescher and A. C. Morrell. Central Travancore P. A.: Mr W. A. J. Milner for Mr. J. S. Wilkie.

Prince of Wales' Reception Committee.

Our note last week only just precedes the announcement that the Prince of Wales' visit to India is postponed for a year. H. R H. The Duke of Connaught will come in his stead.

Mr. A H Mead

Planters will welcome the return to this country after his brief visit home of the well known Manager of the Mooply Valley Rubber Company.

FOR SALE.

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The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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A RUBBER FACTORY FOR SOUTH INDIA.

The discussion which has taken place at the Annual Meeting of the U. P. A. S. I., and the resolution which has been passed on this subject, will be welcomed by every Rubber planter in the country and by many commercial men too. We suppose the question of why there is no rubber goods factory of any magnitude in the East, from which the bulk of the world's rubber comes, is one that has been asked on all sides since the plantation industry reached the stage of permanent, stabilised production. The only answer vouchsafed was that climatic conditions were against it, a reason which off-hand would seem rather futile, since in India and Ceylon at least it is possible to find, at varying elevations, conditions so closely approximate to those obtaining at home and in America as not to make much difference. Lately we have heard rumours of Rubber factories being set up in Colombo and Calcutta—it is surprising, to say the least of it, with what secrecy this has been done, if it is a fact, and the absence of any advertised article, be it tyre, tennis ball, surgical appliance or any other of the many forms in which rubber is extensively used, claiming to have been manufactured in the East, leads one largely to discount the tales one hears of success in this

direction. We are all acquainted, of course, with the Japanese article, but have yet to see the Indian or Ceylonese product of the Rubber Industry. The Dutch have advanced several stages beyond our present position in this respect, and we would refer our readers to an article we published in January last (P. C. Vol. XV, No. 4.) from "THE DUTCH EAST INDIAN ARCHIPELAGO," from which we intend taking a few of the points we wish to make in what follows here.

During the discussion to which we have referred at the beginning of this article, the point was made that the question of temperature in the low country has been got over in Java, and there was no reason to believe that it could not be surmounted here in India. We must remember that there is also a Rubber Factory at Singapore, Government subsidised, we believe, and it has taken them eight years to get any results. Conditions there are presumably very much akin, say to the rubber-producing tracts of Travancore and the West Coast. What then has been their difficulty, a difficulty we may have to face here? It is not, we think, that the temperature of the West Coast is unsuitable, or that Ootacamund, for instance, would be preferable, but that different climatic conditions, even when varying but slightly require different amalgamations, and it is the need for experimental work and research in the particular place where the factory is situated that causes vexatious delay. The chemical processes must vary with different locations, or, as our Dutch friends put it, the amalgamations at Bandoeng (Java) differ widely from those in the Straits, perhaps even a Sourabaya factory would want quite different amalgamations. Presuming a Government subsidised concern in Madras had access to the secrets of the successful process arrived at in Singapore, we should be no nearer to success, except that the eight years of research in Singapore might give some line to go on. What we must not forget, however, in considering, the possibilities of rubber manufacture in this country, is the effect on the industry of the new Peachy process of cold vulcanisation. The vulcanisation of rubber by heat, or a combination of heat and pressure in the presence of sulphur, is undoubtedly directly affected by climatic conditions, and only by lengthy experiments and research will ideal mixtures suitable to local conditions be found. We do not know enough about the new process to be able to say if it, also, would be affected, but we have seen nothing so far which would lead us to think that it would.

There is another point brought out by our Dutch contemporary regarding this special knowledge acquired during the experimental stage. Many trade secrets have thus come into existence, secrets which competition, in its turn, will have to discover in the same difficult and costly manner, in order to attain similar results. This leads us to the question of whether the head of the factory should be a chemist or a business man. As long as the product needs improvement the management, says our contemporary, should be in the hands of a chemist. When the experiments are ended, and everything runs smoothly, then, and not before, should the sale of the article be taken into consideration. Turn now to our leader in the *Planters' Chronicle*, Vol. XV, No. 15, of April 10th last, dealing with Rubber Research. Some idea will be obtained from it of the position of the Scientists in connection with Industry. In order further to elaborate our point, we publish to-day the article "Research and Industry," by G. Basil Barham, which we quoted then. The difficulty of obtaining scientists, in the first place, to study questions such as those we have outlined, coupled with the possibility of many years of unproductive research, make it imperative for Government first to take a hand, before private enterprise can be

expected to come forward. The risk of failure is too great, and, until Government has exercised its privilege of pointing out to the capitalist how success may be achieved, basing its premises on actual results, few will be found ready to put their money into what otherwise would be an extremely doubtful venture. Mr. J. R. Vincent says, according to the *Madras Mail*, that it is opposed to the policy of Government to embark on a private industry of the kind suggested *except in the case of enterprises the success of which is conjectural.* The italics are ours and serve to emphasise that we can think of nothing more conjectural than the success of a Rubber Manufacturing Industry in South India. Mr. Nicolls, on the other hand says, also according to the *Madras Mail*, that the experimental stage of Rubber Manufacture in this country has been passed. The natural question is "how" and "when."

There are many other factors which may well be studied by those who contemplate opening a Rubber Goods Factory in South India. In respect of material only there can be hardly any trade in India, which would resemble the same industry in other countries as that proposed would resemble the great Rubber Industry of Europe and America. But we have particularly stated "immaterial only". Para rubber is the same all the world over, there are not a large number of varieties needing each some special treatment, but here all comparison with the industry as at present established in other countries ends. Rubber, in fact in great quantity, of almost any quality desired is everywhere readily available, but it is notorious that the industry depends very largely on the position of several other commodities without which it is not possible to manufacture so-called Rubber Goods. The best example is the difficulty experienced by the trade during the war, owing to a lack of good canvass. Even to-day an authority at home attributes the present weakness of the Rubber market to the decision of tyre makers in America to cut down production by 20% owing to the shortage of cotton. In short, the cotton position controls the market for tyres, and would be a serious factor, to be considered in this country.

We ask ourselves, therefore, whether the Director of Industries, and the proposer and seconder of the resolution have sufficiently studied the question. We are as keen as anybody to see the country manfactur ng its own produce. We have never believed the assertion that the climate of India was unsuitable to the process of Rubber Goods Manufacture; we realise the advantages we possess of cheap labour, the saving of freight charges which would ensue, and we believe we are right in saying that the mechanical side of the industry is comparatively simple. But we also have pondered over the difficulties of the chemical processes, the necessity for a time test of the article, the rapidity with which rubber perishes in this country, the infinite patience required in scientific research before justifiable results can be obtained, and, above all, the lack in this country of any scheme for the training of industrial chemists.

One word more and we have done; the newspaper report and the vagueness of the resolution hide perhaps from us a few points which may have arisen during the discussion, and, had they been known to us, would have perhaps modified a little our opinion. As it is, we are inclined to think that Mr. Lescher would have been better advised to have stuck to his original resolution, which appears to have asked that Government be approached as regards their willingness *to start* a rubber factory in South India, rather than as regards their willingness *to help to establish one.*

SOUTH TRAVANCORE PLANTERS' ASSOCIATION.

Minutes of the Quarterly Meeting, held at Quilon Club, on Saturday, 14th August, at 11 A. M.

PRESENT.—Messrs J. B. Cook (Chairman), E. Lord, J. A. Anderson, C. E. L. Lister, R. N. W. Jodrell, H. Clarke, A. G. Paterson, W. G. Thom, and J. R. N. Pryde (Hon. Secretary).

VISITORS.—Messrs L. A. Lampard, A. G. A. Dunning. Gillespie & Glen.

MINUTES of the Annual General Meeting were taken as read, and confirmed.

CORRESPONDENCE since the last meeting was read, and the subject of Grants of land to returned Soldiers was discussed. Mr. Lampard, Hon. Secy. of the Travancore Combined P. A., who was present, informed the meeting that his Association was taking the matter up, and it was decided to leave it in their hands for the present, and to await any information which might be forthcoming at the U. P. A. S. I. meeting at Bangalore.

LADY AMPTHILL NURSES INSTITUTE.—The Hon. Secretary quoted from the circular received regarding increase of subscriptions, and it was thought that the proposed subscription of Rs. 20 per head per annum would come rather heavy. The Secretary drew attention to the proposal of the Kanan Devan P. A. as reported in the "Planters' Chronicle" of August 7th, that subscription be on an Estate basis of Rs. 20 per Estate, such subscription to cover all European employees and their dependents. The Bangalore delegates were instructed to support the Kanan Devan P. A., or other similar suggestion, when the subject came up for discussion at the Annual Meeting.

SOUTH INDIAN PLANTERS' WAR FUND.— The disposal of this fund was discussed, and it was thought that the balance should be put to something which would directly benefit Planters. Mr. Paterson suggested that, as some Planters who had been invalided, suffering from Malaria, etc., had to pay increased premiums to Insurance Companies for residence in India—something might be given from the War Fund to help such cases, and the delegates to Bangalore were instructed to bring this up.

MADRAS LABOUR ACTS.—The Chairman pointed out that these were of little interest to us, and, after an informal discussion the matter dropped

LABOUR RULES.—It was thought that Rule III, as it now stands, appointing "three members resident in the different districts concerned" to settle any dispute, would be unfair to one of the districts, and it was resolved to bring up the following amendment at the U. P. A. S. I. Annual Meeting " for the words ' three members resident in the different districts concerned' shall be substituted the words " two members " resident in the different districts concerned, and, if they are unable to come to an agreement, the dispute shall be referred to the Executive Committee." Members were generally in favour of the rules as they now stand, and the following resolution was proposed by Mr. Lord, seconded by Mr. Anderson, and carried:— "That this Association support the Labour Rules, with any amendment which may be carried at the U. P. A. S. I. Annual Meeting."

TEA CESS.—Members were not in favour of the proposed increase, but it was thought that this was a matter for directors and owners of estates, and nothing could be decided on the subject.

ELECTION OF PLANTING MEMBER OF COUNCIL.—The delegates to Bangalore were instructed to find out the position of members who are now on leave, whether they will have a vote on their return to their Estates, and if the Superintendents who are now taking their place will be disenfranchised on the return of the former.

PROPOSED ALTERATION OF U. P. A. S. I. FINANCIAL YEAR.—The object of this is to obviate the long interval between the closing of the financial year and the Annual General Meeting, but, as the change would probably make necessary an alteration in the Articles of Association, it was thought better that the Annual Meeting should be held in June, and in Madras in preference to Bangalore.

BANGALORE DELEGATES' EXPENSES.—It was proposed by Mr. Pryde, and seconded by Mr. Jodrell,—"That the delegates' expenses be increased to Rs. 300 each. Carried.

Proposed by Mr. Lister and seconded by Mr. Clarke.—" That the Honorary Secretary be authorised to spend up to Rs. 400 "on a new Typewriter, and sell the old one to the best advantage".

The Secretary was also authorised to call up the 1920 – 21 subscription.

This being all the business, the Chairman declared the Meeting closed

(Signed) J. R. N. PRYDE,
21–8–20. *Hon. Secretary.*

RUBBER TRADE ASSOCIATION OF LONDON.

Monthly Statistics.

JULY, 1920.

Movements of all kinds of Rubber to and from the United Kingdom as per BOARD OF TRADE RETURNS.

IMPORTS.

From	June.			6 Months ended June.		
	1920	1919	1913	1920	1919	1913
Straits Settlements and F. M. S. ...	5,292	5,193	1,718	26,650	30,863	11,759
Ceylon and British India ...	1,921	1,728	393	12,711	12,655	3,153
Dutch East Indies, &c. ...	1,737	2,116	105	3,616	5,659	621
Brazil and Peru ...	976	662	943	4,921	6,132	11,229
Other Countries ...	277	212	1,607	1,706	2,038	9,725
Total Tons ...	10,203	9,911	4,766	51,604	57,347	36,487

EXPORTS.

To	June.			6 Months ended June.		
	1920.	1919.	1913.	1920.	1919.	1913.
United States of America ...	2,243	520	1,354	22,281	8.365	7,904
Canada ...	658	164	71	2.410	449	259
France ...	1,269	1,007	420	7,992	6,533	2,409
Belgium ...	231	346	158	1.586	1,147	991
Italy ...	164	507	15	1.923	3,133	119
Spain ...	20	32	8	101	142	36
Germany, Austria, Hungary ...	487	95	948	2,288	101	5,686
Russia ...	4	12	518	26	58	3,539
Sweden, Norway and Denmark...	185	569	85	644	1 359	386
Other Countries in Europe ...	272	577	89	457	725	673
Other Extra European Countries.	128	16	64	546	229	390
Total Tons ...	5,661	3,845	3,730	40.254	22,241	22,392

LANDINGS, DELIVERIES and STOCKS in London and Liverpool as returned by the Warehouses and Wharves during the month of June.

		Landed for June.	Deli-vered for June.	Stocks 30th June. 1920.	1919.	1918.
LONDON ...	Plantation ..	6 681	5,086	21,949	24,806	13,959
	Other Grades ...	36	35	568	588	336
LIVERPOOL...	Plantation ...	66†	194†	976†	3.500†	1,963†
	Para & Peruvian	540	760	1.130	1.644	481
	Other Grades ...	2	...	447	428	572
Totals London & Liverpool ...		7,325	6,075	25.070	30,966	17,311

† Official Returns from the five recognised Public Warehouses.

Movements of all kinds of Rubber, excluding Gutta, Balata and Guayule, to and from the U. S. A., AS PER RETURNS OF THE UNITED STATES DEPARTMENT OF COMMERCE.

	April.			4 Months ended April.		
	1920.	1919.	1918.	1920.	1919.	1918.
IMPORTS ...	28,406	27,574	14,738	126.736	81,675	51,641
EXPORTS ...	377	193	425	942	594	1,643

RECEIPTS AT PARA.

	June.			July/June (The Crop Year).		
	1920	1919	1918	1919/20	1918/19	1917/18
Rubber ..	990	1,260	1,700	26,550	24,463	23,404
Caucho ...	910	510	900	7.360	6.642	9.491
Total ,,	1.900	1,770	2,600	33,910	31,105	34,895

RUBBER'S FUTURE.

The prospect of a shortage of raw rubber is being increasingly discussed in the Home papers. There was recently published a statement of a well-known firm of rubber share brokers, pointing to the probable shortage of raw rubber for the world's requirements in the next year or two. In an article which goes critically into the matter, the *I. R. Journal* comes to the conclusion that the prospect of a rubber shortage is not as remote as the present low price of the commodity would lead the observer to expect. American consumption has lately been checked by various occurrences, and the trade in England is much quieter, but the checks can only be of a temporary character. If the suggested 25 per cent. annual increase in the U. S. A. requirements of rubber (or anything like it) materialises, where is the rubber to come from? Not from the new areas arriving at the bearing stage, for their capacity is not to be counted on for more than 2½ per cent. annual crop increase. The only resource is the increased yielding capacity of older areas. To what will this amount? Another point which emerges clearly from any consideration of the subject is the great importance of the maintenance of adequate labour forces on the estates. More and more attention will have to be paid in the future to this factor in rubber production. Alternate day tapping as a solution of the labour difficulty is a solution, says the *Journal*, which many estates are finding satisfactory from their point of view, but it is not so certain that it will be equally satisfactory in future to the consumer. It is interesting to learn, however, that the Rubber Growers' Association have determined, after a full discussion, to invite all rubber estates to embark upon alternate day tapping on the grounds that it lengthens the life of the tree, that where alternate day tapping, is carried on brown bast does not so frequently occur, and that it lowers cost.

We publish elsewhere an interview with a F. M. S. scientific official with regard to the Manchester invention. Lt-Col. Bunker, it will be seen, is optimistic concerning Mr. Peachey's discovery, which, of course, if confirmed, will largely increase the uses, and hence the future consumption of rubber. As regards current consumption, "Macson," in the *I. R. Journal*, emphasises that cotton is still at the root of the mischief, and Sir Charles Macara's report upon the cotton situation does not presage any price relief. "If (he says) the public would think of their tyres as cotton tyres and not as rubber tyres, there might be some chance of co-ordination between the production of rubber and that of long staple cotton. At present the rubber-growing interest is open to a flank attack. Unless Anglo-Saxon sagacity comes to the rescue and grows long staple cotton in balancing proportions to the production of rubber, we shall be under a double threat—rubber prices will languish and cotton-growing may pass into other hands." Meanwhile, the *Times of Ceylon* is calling upon the Ceylon Government to come to the rescue of the Island's tea, rubber and cocoanut industries, depressed by the cost of rice, the heavy export taxes, the loss on exchange and the falling off in the demand for rubber as the result of the cotton shortage and industrial troubles at Home and in America. Our contemporary asks the Government to approach the Viceroy of India again for relief, and, failing this, itself to bear a part of the heavy loss on rice "by reducing the price temporarily, recouping itself by maintaining the price when the cost of the imported grain falls, as it is bound shortly to do."—'Malay Weekly Mail.'

THE AUXILIARY FORCE.

With reference to Mr. Fulcher's letter in this week's issue, some of our readers may not have seen the *Communique*, dated 18th August referred to by our correspondent, and for their benefit we reproduce it below. A further Army Order appeared in the Madras papers of 23rd inst., and this we also give *in extenso*, as it has an important bearing on the subject.

Simla, 18th Aug.—In view of the introduction of the Auxiliary Force Bill in the ensuing session of the legislative Council, the following *Communique* has been issued:—

It has been decided that, until the numbers obtainable on the system of voluntary enrolment has been ascertained, the existing units of the Indian Defence Force will be constituted as provisional units of the proposed Auxiliary Force, and that any reorganisation that may prove necessary will be effected on the basis of the numbers actually enrolled. Persons desirous of enrolment in the Auxiliary Force should inform the Officer Commanding the units of the Indian Defence Force to which they belong, of their intentions to enrol at the earliest possible date before the 1st October, 1920, and such persons will be formally enrolled in the Auxiliary Force as soon as the Force becomes duly constituted by law. Persons who are not members of the Indian Defence Force should apply for enrolment in the local unit to which they desire to belong. Ex-officers and Officers of the Indian Army Reserve of Officers, who have been released from army service, can apply for enrolment, either in the local unit, or in the Auxiliary Officers Corps, submitting their applications, in the latter case, to the General Officer Commanding the Brigade within the area of which they are ordinarily resident. It is further notified that, subject to the approval of the Secretary of State, pay and allowances on a definite scale will be admissible to persons enrolled in the Auxiliary Force who undergo special specified periodical training. The pay will be allowed at the rate of Rs. 2 per diem in the case of privates, Rs. 3 for Corporals, and Rs. 4 for Sergeants. A day consists of four hours of actual drill and instruction, and may be made up of fractions of a day, not exceeding four in number. Any person, in whatever class he may be placed on account of age or otherwise, can earn pay up to the maximum number of days specified for active class, viz., sixteen days in the case of infantry and twenty days in the case of other branches. Persons completing the full number of days and the required musketry course will, in addition, receive a bonus equivalent to the pay thus earned. Reservists of either class, who complete the training specified for the first, or a class of Reserve, and the required musketry course, will receive a bonus equivalent to 50 per cent of the pay that can be earned by undergoing the training laid down for the class, viz., six days in the case of infantry and ten days in the case of other branches. Thus, a Sergeant in an Artillery unit, whatever his age, can earn, by completing the drills required of the active class and annual gun course, Rs. 80 in pay and Rs 80 as bonus, making a total of Rs. 160. Similarly a private of infantry, aged 43, can, by completing 24 hours drill and the musketry course, earn Rs 12 in pay and Rs 6 as bonus. But if he completes 64 hours drill and the musketry course he will earn Rs 32 as pay and Rs 32 as bonus, a total of Rs. 64. For recruits who have to undergo specified preliminary training, the maximum pay and bonus admissible will be that laid down as for the active class. The pay and bonus thus earned will be

additional to the travelling allowance, for which provision will be made on scales to be fixed locally.

Officers holding commissions in the Auxiliary Force will receive pay of rank as for British service, and staff pay at the rate of Rs. 400 for Lieutenant-Colonel, Rs. 200 for Major or Captain, and Rs. 100 for Lieutenant or Second Lieutenant, up to the maximum of sixteen days in the case of Infantry, and twenty days in other branches. Mounted officers and men, provided they complete the training required, will receive horse allowance at the rate of Rs. 30 per mensem, but Reservists, in order to obtain this allowance, must complete the training laid down for the "A" Reserve. Other ranks, when attending camp, will receive free rations, as for the British service, or an allowance in lieu. Officers will receive an appointment on outfit allowance of Rs. 200. Other ranks will be given uniform clothing free. Officers will be appointed to the Auxiliary Force provisionally in the first instance, in order to provide the requisite administrative staff for carrying on the business of the unit. Substantive appointments will be made when each unit is organised on the basis of numbers secured by enrolment. These will be selected on the recommendation of the local military authority from officers of the Indian Defence Force, officers who have relinquished temporary commissions in the Regular Army, and officers of the present Indian Army Reserve of Officers or, where suitable ex-officers are not forthcoming, from other candidates. But in all cases military qualifications will constitute the primary claim to selection.

Simla, 21st Aug.—An army Order says:—As the Indian Defence Force will cease to exist should the Auxiliary Force Bill become law, it is necessary to make provision for the formation of a new force from the date of its constitution. All existing units of the Indian Defence Force will be notified as provisional units of the Auxiliary Force. Reconstituted units will retain their present permanent staff, provisionally. All persons, at present deemed to be enrolled in the Indian Defence Force, who intimate their intention of enrolling in the Auxiliary Force, will be regarded as provisionally enrolled, and will be allowed to retain any Government property which may be in their possession as members of the Indian Defence Force, provided they have given such intimation in writing to the Officer Commanding the unit to which they have been posted, or are attached, for the time being. All persons who do not give such intimation of their intention to enrol in the Auxiliary Force are required to return, to the headquarters of the detachment to which they belong, all arms, ammunition, equipment, clothing and accoutrements, which are the property of Government, and to hand over any other Government property in their charge as members of the Indian Defence Force by the 15th of September, 1920, at the latest. Officers of the Indian Defence Force, desirous of being considered for commission in the Auxiliary Force, will submit their applications, through the Officer Commanding the unit, to the General Officer Commanding the Brigade, without delay.

Officers Corps.

In the recent announcement relating to the re-organisation of the Indian Defence Force, a reference was made to the formation of an Auxiliary Officers Corps. This scheme represents an endeavour to utilise, to the best advantage, the services of the large body of officers and ex-officers, now

resident in India, who, although no longer holding regular commissions, have had actual war experience, either with the British Army or in the Indian Army Reserve. Proposals have been framed for the formation of a special officers' unit of the Auxiliary Force in the Presidency towns and Rangoon and Karachi, and similar units will be recognised elsewhere, should sufficient numbers to warrant this formation be forthcoming. These units will serve more than one purpose. Firstly, they will be available, as are other units of the Auxiliary Force, for local service; secondly, they will constitute a source of supply of trained officers for other units of the Auxiliary Force, an important matter, as the absence of such a training school has long been felt in the Volunteers and the Indian Defence Force; thirdly, in the event of a Reserve of Officers being constituted in India, they will form training centres for the officers who are unable, for business or other reasons, to undergo the full training which will probably be laid down for the Reserve.

It is not essential that all ex-officers should be posted on enrolment to the Auxiliary Officers Corps. Many may prefer to resume their places in the local units to which they belonged in pre-war days, others, in the absence of a unit of the Corps within easy reach, may elect to enrol in the local unit, but it is open to any ex-officer to join the Auxiliary Officers Corps and to undergo an annual training by attachment to another unit of the Auxiliary Force. In the event of the Reserve of Officers being constituted, officers joining the Reserve will be posted either to the Auxiliary Officers Corps, or else be borne as Reserve officers on the rolls of local units. The training to be laid down for units of the Auxiliary Officers Corps will be of a special character, suitable for men who already have war experience and will normally consist of special courses, schools of instruction, regimental tours and the like, carried out under the orders of local Commanders, the aim of this instruction being the exercise of the mind rather than of the body.

For the next few years, while the supply of officers with war experience lasts, there will, no doubt, be sufficient numbers to fill this Officers Corps, but, as time goes on, this supply will be exhausted and other arrangements for its recruitment will become necessary. It has, therefore, been decided that the Commanding Officer of an Auxiliary Officers Corps unit may admit candidates who have no war experience, but are otherwise suitable. Such admissions will be on probation for the first year, and recruits will be required to undergo the full training specified for the branch of the Auxiliary Force to which they belong. The main outlines of the scheme have been drawn up at the suggestion of, and in consultation with, the various Associations already formed by ex-officers. While the scheme must, at the outset, necessarily be of an experimental nature, it is confidently anticipated that it will receive full support from ex-officers in India. Those who are desirous of enrolment can now register their names, whether for the special units of the Auxiliary Officers Corps, or for that Corps generally, with the Officer Commanding any unit of the Indian Defence Force, or with the General Officer Commanding the Division or Brigade in which they happen to be situated. Residents in small stations may register their names with the Officer Commanding the Station for transmission to the Brigade Commander.

RESEARCH AND INDUSTRY.

By G. Basil Barham, M. Inst. M. and C. E.

It is becoming recognised as a truism that the nation which devotes most attention to the application of science to a particular industry will ultimately take the lead in its commercial development. Authorities, however, are not agreed as to the part the State should play in connection with industrial research, and in England, and to a greater extent in France, the opinion is widely held that individual enterprise should be allowed the fullest play. On the other hand, in Germany, Japan, Norway and Italy, the general leaning is towards the establishment of national laboratories fitted with all necessary plant and equipment for both routine and experimental work. It is proposed that to these laboratories university students, apprentices and higher-grade scholars should not only have access, but should receive full maintenance and be paid a salary sufficient to keep them in clothes, etc., during their attendance. The whole of the expenditure would be borne by the State, which would draw the funds from the duties levied as a matter of protection on the imports connected with the various industries in which research work was to be carried out. There has been in the past a great deal of this State aid to industry, particularly in Middle Europe, where commerce was practically controlled by a Triumvirate of State, financier and manufacturer.

It is common knowledge that the commercial prosperity of Germany was due largely to the fact that State aid was always readily forthcoming for comprehensive schemes for applying scientific knowledge to manufacturing work, and the experience of Great Britain, so far as it extends in this direction, is that no firm which has engaged competent scientists for industrial research work has lost money through its enterprise. On the contrary it has invariably reaped more than it spent, and only recently Dr. W. H. Hatfield, an expert on the subject, claimed that in Sheffield alone there were between three and four hundred highly trained adult scientific workers employed by private firms in metallurgical research, their activities being largely devoted to a study of the tertiary alloys, such as iron-nickel-chrome, iron-tungsten-vanadium, and, even quaternary alloys, as iron-nickel-vanadium-molybdenum. So far, the results obtained have been considerably in excess of those anticipated, and according to the authority quoted, what is now wanted in the iron and steel trades is more science to apply.

The advocate of individualism in research can point to these results as showing what can be done by private firms untrammelled by Governmental interference; he can also point to the achievements of Dr. Bolton, who worked out every detail connected with the Tantalum lamp, unaided in the laboratories of Siemens and Halske, Berlin; and to the unaided work of Anton Lederer, or C. S. Parsons, or Wilbur and Orville Wright. On the other hand, the advocate of State assistance points to the undoubtedly successful co-operation of State and individual in the development of war munitions, war transport, both aerial and marine, and to the certainty that the development of aviation would not have reached so high a pitch as it has had it not been for the Government control of the aircraft industry; a control which did not eliminate, but encouraged individual research work. As a matter of fact, at the present time, the British Government is giving a good deal of assistance, not wholly financial, to the research laboratories belong-

ing to private firms as well as to universities and other institutions, the particular industries assisted being the textile, the chemical and dyestuffs, the engineering, and one or two of comparatively minor importance. An instance which comes at once to the mind is the connection of the Government with British Dyestuffs Corporation, which has been so successful in discovering the secrets previously held by Germany in regard to the production of what are known as " intermediates."

One factor which affects the whole subject of research work, and which is being felt acutely in both France and Great Britain is the lack of suitable men for training. The losses caused by the war are immense, and not readily replaceable, and neither primary nor secondary education has proceeded at a pre-war level of excellence since 1914. As a result, there is a real dearth of material, and such as is to be obtained is not only untrained but is, what is far worse, sadly in need of discipline and knows little as to the advantages of ordered study.

There is another reason for this scarcity of students which is common to all countries of the Old World, and that is the totally inadequate wages and salaries which were paid to scientists engaged in industrial work before the war. To take one of the widest and most promising fields for research, that connected with chemical industry, it is a fact that thirty shillings a week, at that time, roughly equivalent to 7½ United States dollars, was considered an adequate salary for a trained chemist who had had about two years' industrial experience after taking his degree of Bachelor of Science ! In Great Britain, there were hosts of practical men who looked askance at the scientist ; there were scientists who avowedly devoted themselves to certain work because no possible commercial use could be made of it ; an eminent British scientist recently boasted to the writer that during eighteen years of deep scientific research he had not obtained a single result that could be turned towards purposes of industry, commerce or manufacture; in other words, that he had succeeded in being clever without being the slightest use or value to the world.

Two impressions, both equally unfortunate, have thus grown up in connection with industrial research. The one, prevalent amongst those fortunate enough to be able to follow science for science sake, that it was undignified and unworthy to soil one's hands with a commercial process, or one's mind by any thought of ultimate profit of a monetary kind, and the other, prevalent amongst parents and guardians, that a scientific career offered no prospect of advancement, and that if a boy had an aptitude for chemistry, or geology or mineralogy, the best thing to be done was to take it out of him with a club and put him in a bank or a countinghouse.

It is to be hoped that the fallacy of both these impressions is now recognised. At the present time the world needs scientists, particularly chemists, and that extraordinarily scarce and valuable combination of chemist and engineer. Any boy youth who has a natural aptitude towards any form of science which can be applied to industry should receive every possible encouragement and reward commensurate with the degree of skill he attains, no matter whether that reward and encouragement are given by private firm, by the State or by a judicious co-operation of both.

A scheme for training industrial chemists has been drawn up in Great Britain and is receiving the earnest attention of the industry. In this provision is made for a sound and practical training in both pure and applied chemistry for a period of two years, during which time the teachers carefully note the particular abilities and individual bent of each student. During the third year, special subjects will be introduced with a view to discovering and assisting any special aptitude, and it is proposed that during this period each student should be individually examined by the heads of the departments, his records examined and analysed and be finally advised as to the particular direction in which he would find it of greatest value to continue his work. A fourth, and if necessary, a fifth year would then be passed in carrying out higher post-graduate work by those who intended to specialise in more abstruse work, whilst those students of only average ability would be specially instructed in work of a less advanced character.

Special training in machine construction, applied mechanics and general mechanical engineering work would be given at the same time, and in the third year some special instruction in the general principles underlying the construction of autoclaves, stills and retorts, pressure filters and such appliances would be given. In the fourth and fifth years, descriptions of existing special plants would be supplied to the students and dealt with from a theoretical standpoint, and later the plants themselves would be visited and treated from a practical aspect. Instruction in the use of tools, hand and machine, would be also given in the workshops attached to the training centre, and the pupil would be given some practical and theoretical knowledge of foundry work and the various metallurgical sides of chemical engineering, which are more numerous and complex than is generally imagined. Training of this kind could be, and no doubt quickly will be adapted for work in connection with any science capable of being applied to industry. Already, schemes are in operation in connection with scientific farming, with the production of synthetic dyes, with the commercial utilisation of vegetable oils, fats and waxes, with electrical engineering and with automobile engineering, and during the coming period of reconstruction there is no doubt that the scope of these will be extended and their number added to considerably. Workshop training centres are springing up all over England ; there is hardly a factory but which has not some form or other of technical school attached, and hardly an apprentice but who is not attending either factory or secondary school classes, and in connection with the former of these, it is worthy of notice that in practically every British works of any size, where workmen receive technical or general instruction in the schools attached, they are not only paid their standard rate of wages for the time spent in the schools, but bonuses, scholarships and industrial promotions are offered to, and are readily obtainable by all who approach their work with a real determination to better their knowledge and position.—*Production.*

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

Increasing the Labour Force.

Dear Sir,—There was a time when our Chronicle was known as "Comic Cuts." I thought we had passed that stage, but XXX's letter, in your issue of August 14th, is quite in the style of pre-war days. Unless it is a case of crass stupidity, dense ignorance, or a clumsy attempt at a leg-pull, the idea of arriving at any conclusion on the question of women postponing motherhood, by counting the number of miscarriages which occur *without one's knowledge* is as good an example of unconscious humour as any I have seen. In case, however, XXX is a youthful S. D. genuinely seeking knowledge, I hasten to inform him that there is a more simple method, though not so original, used by all authorities with which I am acquainted, which is to work out the birth rate for any given number of people. He will find in Berne, in Switzerland, the most complete and accurate figures on the subject, worked out for every civilized country. The birth rate on Estates where records of the sort are kept, and of which I happen to have knowledge, compare quite well with other countries. It is when we come to study infant mortality that we see the necessity for improvement on our part. I strongly protest against the base insinuation against my Apothecary, who does not deserve it. I regret I cannot compete with XXX's originality, and still more that he considers my former suggestions are not practical. He has shown himself very original, and it remains for him to put his ideas into practice.

AYLMER MARTIN.

21/8/1920.

Statistics.

Dear Sir,—Kindly permit me to reply to *Planter's* interesting letter. Much of what he says is sound though a long-sighted idea of "progress" would make it merely going round in a circle. It was chiefly the rage for statistics that my letter protested against, and the idea that they are a cure for every (or any) ill.

We have had statistics of projected railways for 50 years, but I think no railways of direct use to planters have yet materialised. Those who furnish statistics have at least a right to know what good purpose they serve, and to see, sometimes, some result in the form of action. It is to be noticed that all who defend statistics do so only in vague terms "progress," "enlightenment," "if you don't you'll be as dead as the dodo," and so on.

The real reason for unnecessary statistics is the bloated number of Clerks, and not in India only. No wonder that paper is up 1000 per cent. In excess, they are a kind of parasite, and with their forms "Your most obedient humble servant," etc., have taken the place of the mendicant friars, pardoners, summoners, and so forth, who used to prey on mediæval Europe. It must be a comfort to the good people of Ceylon to know

exactly what proportion of their people have died of hookworm, what of dysentery, and so on. But does that cure them?

But against *Planter's* able pen, I must produce one still abler—Dickens. "Then Mr. M'Choakachild said he would try me once more. And he said there are the stutterings:—

"Statistics" said Louisa.

"Yes, Miss Louisa—they always remind me of stutterings, and that's another of my mistakes—of accidents upon the sea. And I find (Mr. M'Choakachild said) that in a given time 100,000 persons went to sea on long voyages, and only 500 of them were drowned, or burnt to death. What is the percentage? And I said, Miss———— it was nothing."

"Nothing, Sissy?"

"Nothing, Miss————to the relations and friends of the people who were killed."

Finally, from a recent "Times":

The Rural District Council at Pinner have passed a resolution strongly protesting against the action of the Ministry of Health and the London Housing Board in requiring local authorities to fill up and supply unnecessary forms and statistical and other statements "thereby causing vexatious delays which not only tend to retard the erection of houses, but have the unfortunate effect of seriously increasing the already high cost of construction." *Verb. Sap.*

Yours Ever,

ONE OF THEM.

New Auxiliary Force.

Dear Sir,—You may have seen the *Communique* in the papers, dated Simla, 18th August, outlining a provisional scheme for above in view of the introduction of a bill in the ensuing session of the Legislative Council.

In the interests of planters who gave up their billets and served in the I. A. R. O. through the Great War, I think the U. P. A. S. I. should take the matter up and ask Government for a clearer statement, before ex-officers and officers of the present I. A. R. again enrol themselves.

We are now asked to enrol ourselves at the earliest possible date before 1st October next, in either the local unit or the Auxiliary Officers' Corps.

Personally, I should like the following information before sending in my name, and I take it there are many other planters equally in need of same:—

1. Is it proposed to reform the S. P. M. R. on a pre-war footing?

If not, is any other mounted corps likely to be formed in S. India?

2. Clearer conditions should be given for ex-officers enrolling in :—

(*a*) A local unit.

(*b*) Auxiliary Officers' Corps,

Stating what advantages, if any, will be offered to men who served as officers in the I. A. R. O. during the war, and who gained experience on Field service.

3. In the case of enrolling in the A. O. C.: —

(*a*) Will officers be liable to be called up at short notice?

(*b*) How will ex-officers' seniority count on joining a unit?

(*c*) Whether they will be given the choice of Cavalry, Infantry, or any other branch.

(*d*) Whether they may apply for their old regiment, served with during the war.

(*e*) Whether any allowance will be made for married officers having to provide for leaving their families at short notice.

(*f*). Whether chargers will be provided :—

For 1. Period of training. 2. When joining a unit.

If not, will Government help defray cost of keeping a horse and upkeep of equipment when not on Military duty.

(g). How much equipment Government expects a new officer joining to buy out of Rs. 200, in these days of high prices, or even at pre-war level of prices.

The above are a few important points on which we should like more information. Unless this is given before we are provisionally asked to enrol, the Government will find a large discrepancy in numbers between the provisional and final enrolments.

I hope the U. P. A. S. I. will press for a clearer statement before the introduction of the bill.

Yours faithfully,

G. W. FULCHER.

Woodbriar Estate,

21st August, 1920.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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THE COOLY AND DRINK.

Should the Tamil cooly have perfect freedom as to the amount of drink he may consume provided its cost remains within his purchasing power? We suppose that, if we look at the question purely from the greatly abused principle of the freedom of the subject, he should be permitted to buy as much drink as he can pay for. That is really what he is able to do under present conditions, and even a little more, for there are cunning old kedai keepers who, to hold the custom of the cooly, often allow him to consume a little on the credit system. The whole question of toddy-drinking is a big one, and while it has been discussed for years past, we do not consider that any serious attempt has been made to solve it. In our issue of July 16, we dealt with the question, and argued that an improvement should be made on existing conditions, in the interests of the coolies themselves and the planting industry generally. As we stated then, we state again—there are two ways to bring about an improvement. Either close down the toddy shops altogether, or confine the sale of toddy to estate shops. It is very simple to argue that the cooly ought to be allowed to purchase as much drink as he wishes provided he does not do so in working hours. A European is allowed to do so. Why then should not the estate labourer? To hang on, without reason, to what is regarded as the principle of equality for all classes, is pernicious in a country of this character, because there are not only diff-

erent classes to consider but different races, and those who dismiss the question with the old worn tag are no friends of the cooly or of the industry. We do not think that the average Tamil has a natural inclination to indulge in intoxicating drink on the scale he too often learns to reach when he has been resident in this country for a few months. But the stuff is continually under his nose, and eventually he falls to the temptation.

We are surprised that not more has been made of this question of toddy-drinking when the subject of wages has been discussed by the various planting bodies. It is irrefutable that the cooly over here has a greater earning, and, therefore, a greater spending capacity than he has in his native land, although we are quite ready to believe that it may not be so great as it was in pre-war days. In too many cases the surplus is spent at the toddy shop. If there were increases of wages all round, it would mean that there would be much more money spent on toddy, and the only one who would eventually benefit would be the keeper. Thus, the manager and the cooly would run round in the vicious circle. We have no wish to argue here that the wages of the cooly should not be increased. It is pretty generally accepted that they should; but there will be no real benefit to the estates or to the cooly himself if the surplus money of the latter is to be spent on toddy. Accordingly, if there is to be an increase, the estates should make certain that they will benefit by it, as well as the labourer; and the only way that we see how this can be done is either by removing the temptation altogether or by controlling the sale of the drink.

We are afraid that, if an attempt is made to close all toddy shops and to prohibit the sale of the drink, the coolies will rebel. It is unlikely that they will appreciate any effort to make them "dry" any more than the European communities of this country would, and we are rather inclined to think that the idea of introducing complete prohibition had better be dispensed with, for the present at least, and attention concentrated on the control of the sale of the toddy. We are convinced that, if this is done there will be a better chance of success. To our mind, the only way that control could be effective would be to have all shops on estates, run directly by the estates. It would first of all be necessary to arrive at the quantity that would be necessary to meet a week's consumption, say on the basis of so much for each labourer, and that quantity and no more would be handed out to the keeper. The estate would be the real purchaser of the toddy, and the keeper only the distributor. It would be possible, therefore, to control prices, the estate selling to the keeper at cost price and allowing him to sell at a price that would afford him a reasonable profit. He would be forbidden to supply any drunk labourer, under a fairly heavy penalty, and, so far as possible, he would have to refuse to supply drink to any cooly from another estate. We appreciate the difficulty there might be in recognising which coolie were estate coolies and which were not, and a little latitude would have to be allowed in this respect, but, with proof of any serving of outside coolies, the keeper would be liable to meet a penalty. At first, in consequence of the difficulty in arriving at the exact number of coolies who did not touch toddy, it would be hard to decide the quantity which should be given to the keeper every week, but in time, we think that this could be learned by studying the weekly sales. The above, of course, is only a rough idea of what might be done. We do not say that such a scheme would stop drunkenness amongst the labourers, but we are confident that it would go far to reduce it to a minimum, and certainly would be a considerable improvement on the existing uncontrolled system.—(*Malayan Tin & Rubber Journal*).

GENERAL COMMITTEE MEETINGS.

Proceedings of the Fifth Meeting of the General Committee of the United Planters' Association of Southern India, held at the Mayo Hall, Bangalore, on the 23rd August, 1920, at 10 a. m.

PRESENT.—Mr. A. S. Dandison ... ... Chairman.
The Hon'ble Mr. J. A. Richardson. Planting Member.
Mr. H. Waddington ... ... Secretary

and

Planters' Associations.	*Representatives.*
Anamalais	Messrs. C. R. T. Congreve and C. K. Pittock
Bababubdins	S. H. Dennis
Central Travancore	E. C. Sylvester
Coorg	P. G. Tipping and A. J. Wright
Kanen Devans	W. A. Lee and G. R. Strachan
Mundakayam	J. R. Vincent and G. McPherson
Nilgiris	A. K. Weld Downing
Nilgiri-Wynaad	J. Aird and J. S. Nicolls
North Mysore	W. H. Reed
Shevaroys	H. Dickins and W. I. A. Lechler
South Mysore	Lt.-Col. W. L. Crawford and T. Anderson (substitute for C. J. Hayward)
South Travancore	J. B. Cook and E. Lord
West Coast	R. Lescher (substitute for A. H. Mead) and A. C. Morrell
Wynaad	J. A. Gwynne and E. E. Eyre.

NOTICE OF THE MEETING.—By order of the Chairman the Secretary read the notice convening the meeting.

The Proceedings of the last meeting were read and confirmed.

SHEVAROY PLANTERS' ASSOCIATION.—The Shevaroy Planters' Association, which had provisionally been elected to membership by the Executive Committee as from 1st April, 1920, were elected.

ADMITTANCE TO MEMBERSHIP.—Proposed by Mr. P. G. Tipping of Coorg, and seconded by Mr. A. K. Weld Downing of Nilgiris, that—

"All applications for membership may be accepted provisionally "by the Executive Committee, such membership to date from the "commencement of any quarter."

Carried *nem con.*

MALABAR TIMBER CO.—Read application from the Malabar Timber Company Ltd. for membership, and the Secretary's reply pointing out that only Companies who are proprietors of an estate subscribing to a District Planters' Association are eligible for membership. Recorded.

AGENDA ORDINARY MEETING, U. P. A. S. I.—The Agenda of the Ordinary General Meeting commencing in the afternoon was then considered, and a programme arranged as to the order in which items should be taken.

H. WADDINGTON, *Secretary.* A. S. DANDISON, *Chairman.*

Proceedings of the Sixth Meeting of the General Committee of the United Planters' Association of Southern India, held at the Mayo Hall, Bangalore, on the 26th August, 1920, at 2-30 p.m.

PRESENT.—A. S. Dandison ... ... Chairman.
The Hon'ble Mr. J. A. Richardson... Planting Member.
Mr. H. Waddington ... ... Secretary.

and

Planters' Associations.	*Representatives.*
Anamalais	Messrs. C. K. Pittock.
Bababudins	S. H. Dennis.
Central Travancore	E. C. Sylvester.
Coorg	P. G. Tipping.
Kanen Devans	W. A. Lee and G, R. Strachan.
Mundakayam	J. R. Vincent and G. McPherson.
Nilgiris	A. K. Weld Downing.
Nilgiri-Wynaad	J. Aird and J. S. Nicolls.
North Mysore	W. H. Reed.
Shevaroys	H. Dickins and W. I. A. Lechler.
South Mysore	Lieut.-Colonel W. L. Crawford and T. Anderson (sub. for C. J. Hayward.)
South Travancore	J. B. Cook and E. Lord.
West Coast	A. C. Morrell and R. Lescher (sub. for A. H. Mead.)
Wynaad	J. A. Gwynne and E. E. Eyre.

POSTPONEMENT.—The business of the General Meeting of the U. P. A. S I. being unfinished; by general consent the meeting was postponed till after that meeting.

CHAIRMAN.—At 5 p. m., the same members being present, the meeting was opened, Mr. C. R. T. Congreve the newly elected Chairman taking the Chair.

The Secretary read the notice convening the meeting.

EXECUTIVE COMMITTEE.—The Executive Committee were then balloted for, and the following gentlemen declared elected :—

	Active Member.	Member in Waiting.
For Tea ...	W. A. Lee	A. S. Dandison.
Rubber ...	A. H. Mead	E. Lord.
Coffee ...	P. G. Tipping	Lt.-Col. W. L. Crawford.

FINANCE.—The matter of increasing the subscription by two annas per acre, as recommended by the Ordinary General Meeting just closed, was considered, but postponed to a later meeting.

H. WADDINGTON,
Secretary,

C. R. T. CONGREVE,
Chairman,

SHEVAROY PLANTERS' ASSOCIATION.

Minutes of a Special General Meeting of the Shevaroy Planters' Association, held in the Victoria Rooms, Yercaud, on Thursday, 19th August, 1920, at 2 p.m.

PRESENT.—*Mesdames.* V. Lechler, M. Cayley, M. Gaitskell, *Messrs.* S. M. Hight, C. L. Hight, N. M. Hight, C. Rahm, S. Campbell, H. S. Dyer, V. L. T. Drapes, Rev. Studer, Major B. N. Short, W. I. A. Lechler, H. S. Dickins, Honorary Secretary and Chairman. *Visitors.*—Mrs. J. Inglis and Miss Doris Lechler, J. *Messrs.* C. Large, J. Inglis, Camyard.

(1) Notice calling the Meeting was read.

(2) Read and confirmed proceedings of the Committee Meeting, held on the 5th August, 1920, by which Mr. H. S. Dickins was elected Hon: Secy. in place of A. H. Whittle, resigned and left the District.

(3) *Incorporation:*—2,363 acres had come in at the Meeting, 940 was coming in, making a total of 3,303; 2,160 was still out, and the Hony. Secy. was sanguine to get in this acreage, and hoped to succeed, if he did the Shevaroys would total about 5,400 acres.

Resolved that the subscription to the S. P. A. Incorporated be fixed at Rs. 1/6 per acre for Coffee, Re. 1 per acre U. P. A. S. I., and annas 6 for the S. P. A. expenses, and that this subscription be paid yearly or half yearly at the option of subscribers, March and September, in advance.

(4) *Proposed* by Mr. S. M. Hight and seconded by Mr. V. L. T Drapes that Mr. H. S. Dickins and Mr. W. I. A. Lechler represent the S. P. A. at the Annual Meeting of the U. P. A. S. I. at Bangalore on the 23rd August, 1920. Carried.

(5) *Office Bearers.*—Proposed by Mr. C. Rahm and seconded by Mr. W. I. A. Lechler, that Mr. V. L. T Drapes be asked to fill the vacancy caused by Mr. A. H. Whittle's resignation on the Committee. Mr Drapes having agreed to do so, the Committee is now as follows:—Messrs. H. S. Dickins, Honorary Secretary and District Board Member, W. I. A. Lechler vice Honorary Secretary S. M. Hight. Rev. Father Capelle, C. Rahm, W. Rahm, C. D. Ryle, V. L. T. Drapes.

(6.) H. E. the Governor and H. E. Lady Willingdon's proposed visit to Yercaud.

"It was suggested that their Excellencies be entertained by the planters and residents of the Shevaroys at a Garden Party at "IVY" Cottage, at 4 30 P. M., on Saturday 2nd October." A sub-Committee will manage all arrangements.

The Meeting terminated with a vote of thanks to the chair.

(Signed) H. S. DICKINS,
Honorary Secretary & Chairman,
Shevaroy Planters' Association.

THE PROPOSED PLANTERS' OWN COFFEE CURING HOUSE.

(By a Correspondent)

These few lines are written in connection with the proposed "Planters' Own Curing House" in Chickmagalur, that is attracting the attention of the readers of the "Planters' Chronicle" while perusing the proceedings of the Meetings of some of the District Associations.

At the outset the idea appears to be a capital one, and the only difficulty in the way is obtaining the required "Capital." To the mind of the writer, however, this Capital difficulty is only a minor one as compared with some other graver considerations which are set forth below. Only float the Company and point out the profits and benefits to be derived from it, and the shares will be bought up like "hot cakes" fresh from the oven. Being one with a knowledge of the tricks of the trade, the writer makes bold to put before the Prime-Movers of the Venture the very practical obstacles that are in the way of the idea turning out a success.

In the first place Coffee, unlike Tea, is not cured only by machinery. It requires, in the later stages, a very large number of human hands for finishing. To put through 1000 tons in six months a Coast Firm has to maintain a labour force of at least 600 hands, mostly female. The main cry in the estates now is "more labour." In the event of the proposed Chickmagalur Curing House turning out a success, it will be at the expense of the surrounding coffee estates, from where the labour required will be drawn. "Coffee Garbling" is a very light task as compared with estate work, and while, at the same time, it is also very lucrative, the women from the estates will flock *en masse* to the Curing House. The Mysore and Coorg Coffee output is now dealt with by no fewer than eight Curing Houses, employing a labour force of not less than 3,000 souls, all working at full pressure even during an average season. Is it the idea of centralizing the work of these eight factories into one establishment ?

The Sun, and "no rain" play a very important part in the successful preparation of coffe for the Home Markets. The planters are acquainted with the kind of weather they always have, and the difficulty they experience in "Estate Curing" the coffee they pick, prior to despatch to the Coast. The weather at Chickmagalur is not far different from that obtaining in the planting areas. Perhaps the promoters have the "Okrassa" Patent Dryer in view to surmount this obstacle. Well, this is the age for new ventures !

The Port of Shipment, according to the "P. C." of the 21st August, is claimed to be Bombay, as it is open right the year round. The writer would favour Marmugao, being nearer. But then it is situated in Foreign Territory, which might involve the concern in difficulties of a technical nature. Bhatkal, the proposed Mysore Port, would perhaps come to the rescue. But then, is an "all the year round Port" necessary for coffee ? Except in very fat seasons—and these unfortunately for the planter do not come every year—the existing Curing Houses on the Coast can very easily deal with the annual coffee output, and get it away long before the last steamer for the season is come and gone. If the coffee remains unshipped it is, in nine cases out of ten, due, not to the want of a boat to carry it away, or to the inability of the Curer to get it ready in time for it, but to the

absence of a profitable Market at the other end, and in the fond hope of doing "one better" after the rains. Given a good Market at destination, one may rest assured that the Coast Curers will put their best foot foremost and get the produce away in spite of all difficulties, as they did in the year of the "Flu." It is all very well to cry for an "all the year round Port" for coffee, but the Coast Curers would point out to the "Criers" that, in order not to deteriorate in quality and colour, the beans in the bags must be kept as weather-tight as possible during the wet season. What, then, is the use of an "Open Port" with a "Closed Factory?"

Yes, there is the so-called Chickmagalur Coffee Market that deals, according to Mr. Kirwan of the B. P. A., with "some 1,000 tons or more of Native Coffee." And so do the Saklaspur. Mercara and Somwarpet markets, on a more moderate scale. But where does all this coffee go to? 99% of it finds its way into Mangalore. to be resold there at a profit or loss, as the case may be, after arrival. This coffee is only partially cleaned, "Estate Garbled" as it is called in Curer's *parlance*. and it has to be brought to the required standard on the Coast, to make it fit for Europe.

The object of this article is not to throw cold water on the proposed scheme which is claiming the attention of the ablest planting heads, but, before involving a lot of capital and energy in a scheme like this, it would be just as well to call in the advice and experience of everyone concerned, including the existing Curers, who are mostly planters themselves, and have a good look at the thing right round before any decisive step is taken. The idea of establishing a Curing House in the midst of the coffee estates has been mooted before, and capitalists have actually taken soundings, but the idea was dropped. There are also the Curing Works in Hunsur, which do not appear to have prospered. Would it not be worth while to look into the cause of these failures before proceeding further? The troubles connected with the transport of crops to the Coast are bad enough, but it would be bad policy to call in further trouble to get rid of the existing ones. Besides, there are other far more important problems to be solved. What about labour to produce the crops that have to be cured at Chickmagalur?

THE COIMBATORE—ANAMALAIS MEET.

Saturday morning, 28th August, was eagerly looked forward to in Coimbatore, and no less so I am sure by the members of the Anamalai team, who arrived at various times and in various vehicles during the day. A very attractive programme of events awaited them, beginning with the Grigg Memorial Sports, when Mr. F. B. Evans, I.C.S., Collector of Coimbatore was "at home" to the station and to the visitors. In the evening a start was made at Bridge after dinner at the Club, and although the whole series of games could not be completed, it was evident from the huge score piled up by Coimbatore that the planters would be the losers.

Sunday proved to be a bit of a scorcher, and no doubt the brilliant sun contributed to the reluctance of the Cricket teams to turn out: or may-be it was the dancing which took place after dinner the previous night; however, a start was made just before nine o'clock, and Vincent, winning the toss, put his side in first. Coimbatore, lacking the services of many of las year's team, particularly Anstead, Wimbush, Furness, Berry and Simon, put up only a fair show, and were all out by eleven for 101. For the remaining half hour, before lunch the Anamalais, with the help of Danagher

and Maule, had wiped off half this total and, with Sullivan and Fraser in, even after lunch at the Club, it soon became evident that Coimbatore were in for a beating. These two finally scored 81 and 63 not out, respectively, Fraser declaring with the fall of Sullivan's cricket at 241 for 5. Coimbatore went in a second time, requiring 135 runs to avert the innings defeat and 1¾ hours to play. It was a close thing, and the Anamalais finally brought it off with four minutes to spare, winning by an innings and 17 runs.

The following are the full acores and analyses :—

COIMBATORE.

1st Innings.			2nd Innings.	
G. Y. Loveband	b. Danagher	3	b. Sullivan	0
R. B. Cornwell	b. Fraser	23	c. Hetherington b. Cotton	0
R. V. Norris	b. Sullivan	0	c. & b. Cotton	4
M. A. Singara Iyengar	Ht. Wkt. b. Cotton.	0	c. Fraser b. Cotton	17
W. Wardlaw	b. Cotton	37	Run Out	7
F. R. Parnell	b. Fraser	4	St. Hetherington b. Sullivan	4
T. I. S. Mackay	c. & b. Fraser	5	St. Hetherington b. Sullivan	25
J. H. Longrigg	b. Cotton	6	Not Out	1
G. R. Hillson	c. Mills b. Fraser	0	c. Hope b. Fraser	6
J. Gill	Not Out	8	b. Fraser	26
E. Vincent	b. Sullivan	0	c. Jones b. Cotton	20
	Extras	20	Extras	8
		106		118

Analysis of Bowling.

	O.	M.	R.	W.	O.	M.	R.	W.
Cotton	4	0	13	3	10	0	32	4
Sullivan	12·2	4	19	2	13	0	45	3
Danagher	3	0	9	1	...	...	...	...
Hetherington	3	1	6	0	2	0	16	0
Fraser	8	0	33	4	4	0	10	2
Maule	2	0	6	0	...	...	...	...
Ireland Jones	...	...	...	...	2	0	10	0

ANAMALAIS.

1st Innings.		2nd Innings.
J. E. Sampson	b. Singara Iyengar	2
A. V. Danagher	b. do.	34
E. G. F. Maule	l. b. w. do.	21
O. M. Hetherington	b. Mackay	6
J. H. B. Sullivan	c. Mackay b. Longrigg	81
C. Fraser	not out	63
A. C. Cotton M. Stuart J. H. Ireland Jones R. V. Hope A. W. F. Mills	Did not bat.	
	Extras	34
	Total for 5 wickets*	241

* Innings declared closed.

Analysis of Bowling.

		O.	M.	R.	W.
Singara Iyengar	...	18	2	62	3
Cornwell	...	2	...	15	0
Wardlaw	...	4	...	22	0
Mackay	...	7	...	28	1
Longrigg	...	8·4	...	38	1
Hillson	...	4	...	20	0
Loveband	...	1	...	7	0
Gill	...	2	...	17	...

On Monday morning, a commencement was made with the tennis tournament. Each side put up 3 players for the men's singles, 3 pairs for the men's doubles and two pairs for the mixed doubles. The visitors at the last moment made some changes in their team, some of whom were bowled over by the previous day's exertion in the sun, or was it the lobster, it could not, surely, have been the wine. The morning proved disastrous for the planters, Coimbatore winning six matches to three in the men's singles. As the day progressed, however, the visitors did better, particularly in the mixed doubles, which they won outright, a very close match ending finally in favour of Coimbatore by 12 games to 10.

Snookers followed and was won by Coimbatore, leaving the position rather an interesting one. In a total aggregate of 21 points, it was decided to allot for Bridge 1, Snookers 2, Golf 3, Hockey, Tennis, and Cricket 5 each. By winning the Bridge, Tennis and Snookers, Coimbatore had scored 8 to their opponents' 5, and required only to win the Golf to secure the Cup. Had they lost the Golf, however, the scores would have been 8 all, and the Hockey match would have been the deciding factor. Some interest, therefore, attached to the Golf, but here again Coimbatore proved too strong for the hill men, and won every match. This settled the matter, and, as the Anamalais were short of players, the Hockey match was relieved of some of its importance. A good fast game was, however, witnessed by a large crowd, Coimbatore winning by 4—1.

After the Hockey an early dinner at the Club was followed by the performance of Harold Terry's comedy "General Post." A strong caste from Ootacamund very kindly came forward to amuse us all with this very excellent little piece, which presents the picture of Sir. Dennys Broughton's tailor, Edward Smith arriving at the rank of Brigadier-General during the war and marrying the Baronet's daughter. It was all most excellently done, and the players must have felt gratified that their efforts were so hugely appreciated by the large audience.

A special tribute must be paid to Mr. H. Harper, who was responsible for the fitting up of the state, which was, I am sure, a surprise to everybody in its perfection. The profits from the concert are to be given to the Coimbatore Y. M. C. A.

I must allude for a brief space to the dinners at the Club, which were such pleasant and highly successful functions. Mr. Waddington, Secretary of the U. P. A. S. I. and Mr. Congreve, Chairman were present on Monday and Tuesday, and both made allusions to the interest which was being taken by the planting world in general in this Coimbatore-Anamalai Meet. It is suggested that planting districts should play each other at the various games and meet at Coimbatore in the finals, a suggestion which I need hardly say was received with prolonged enthusiasm. It remains for someone to work out the scheme and put it before the Community. I am sure the Editor of the Chronicle would be only too glad to publish suggestions.

On Tuesday at supper, Mr. Edwin Vincent, Hony. Secretary of the Coimbatore Club, was presented by Mrs Fraser with the handsome silver cup subscribed for by both clubs, and which I hope will long remain an incentive to both teams to do better next time.

Thus ended a perhaps rather strenuous, but certainly most enjoyable meet. May it be only the forerunner of many another.

"EVIE."

Appended are the detailed results.—

1. Bridge, Coimbatore, (Messrs Evans, Fischer, Loveband, Clements, H.C Sampson, Gill, Buckley and H. A. Irwin

beat

The Anamalais (Messrs. Danagher, Hetherington, Simmons. Sullivan, Mills, Cotton, J. E, Sampson, and Davenport.)

2.—Cricket Anamalais (241 for 5)

beat

Coimbatore (106 and 118) by an innings and 17 runs.

3. TENNIS: MEN'S SINGLES.

Fraser (A)	beat	Heycock (C) ...	8-6
Cotton (A)	do	Ardagh (C) ...	6-2
Norris (C)	do	Danagher (A) ...	6-3
Danagher (A)	do	Ardagh (C) ...	6-4
Norris (C)	do	Fraser (A) ...	6-4
Heycock (C)	do	Cotton (A) ...	6-4
Norris (C)	do	Cotton (A) ...	7-5
Heycock (C)	do	Danagher (A) ...	6-4
Ardagh (C)	do	Fraser (A) ...	6-2

MEN'S DOUBLES.

Heycock and Norris (C)	beat	Fraser and Cotton (A)	6-1
Fischer and Ardagh (C)	do	Hetherington and Sampson	6-1
Bownass and Danagher (A)	do	Parnell and Wilson (C)	6-0
Fischer and Ardagh (C)	do	Bownass and Danagher (A)	6-4
Fraser and Cotton (A)	do	Parnell and Wilson (C)	6-3
Heycock and Norris (C)	do	Hetherington and Sampson	6-1
Parnell and Wilson (C)	do	Hetherington and Sampson	6-3
Heycock and Norris (C)	do	Bownass and Danagher (A)	5-2
Fraser and Cotton (A)	do	Fischer and Ardagh (C)	6-4

MIXED DOUBLES.

Mrs. Jones and Bownass	(A)	best	Mrs. Wilson and Norris (C)	6-2,
Mrs. Jones & Bownass	(A)	do	Mrs. Waddington & Heycock	6-4.
Mrs. Fraser & Fraser	(A)	do	Mrs. Waddington & Heycock	6-0.
Mrs. Fraser & Fraser	(A)	do	Mrs. Wilson and Norris (C)	6-0.

4. SNOOKERS:

Vincent & Harper (C)	beat	Mills & Stuart (A).
Buckley & Mackay (C)	do	Fraser & Danagher (A).
Eaton & Parnell (C)	W. O.	Sullivan & Bownass (A).

5. GOLF.

Coimbatore.		Anamalais.	
Mackay	beat	Bownass	8 and 7
Campbell	beat	Mills	5 and 4
H. C. Sampson	beat	Sullivan	one up.
Rev. F. W. Heycock	beat	Maule	4 and 3

6. HOCKEY.

Coimbatore—(Messrs. Fischer, Ardagh, Hillson, Mackay, Wilson, Windle, Parnell, Norris, Cornwall, Wardlaw and Kadir Bux)

beat

The Anamalais—(Messrs. Stuart, Danagher, Hetherington, J. E Sampson, Hope, Davenport and five students,) 4 goals to 1.

ELECTORAL ROLL.

Madras Legislative Council.

PLANTERS' CONSTITUENCY.

In publishing the preliminary Roll of voters for the Planters' Constituency on the 23rd August, the Registration Officer drew attention to the following rules :—

(1) Any person who claims to be entered in the Roll and who is not entered in it, or is entered in an incorrect place or manner or with incorrect particulars, may put in a claim to the Registration Officer to have his name entered, or the registry corrected.

(2) Any person whose name is on the Roll, and who objects to the correctness of the entry or to the inclusion of his own name or the name of any other person whose name is on the Roll, may prefer an objection to the revising authority.

(3) Claims and objections may be presented to the Registration Officer at any time during office hours, or sent by post, but must reach him on or before 10th September.

(4) Claims and objections which are not received by the date prescribed will be rejected.

(5) All claims and objections received in time and in proper form will be heard by the Revising Authority at Coimbatore, on a date previous to 30th September of which notice will be given.

* * * * *

Mr. Waddington, who is the Registration Officer for this Constituency, informs us that the Revising Authority will sit at Coimbatore on the 17th September next. We would like, therefore, to draw the attention of voter sto these dates, as no claims or objections will be entertained after the 10th September, a not very distant date.

THE LATE MR. C. J. HAYWARD.

The death of Mr. C. J. Hayward at Bangalore on 30th August will have come as a terrible shock to a very large circle of planters. He was a delegate for South Mysore in 1910, 1915, 1917, 1918, and 1919, and served on the Executive Committee recently, in place of Mr. C. Lake. Our own memory of him is a vivid one, as all who attended the Annual Meeting of 1918, when we sat next to him, will agree. The late Mr. Hayward was a man of most charming personality, and his qualifications had undoubtedly marked him down for future honours in the U. P. A. S. I. His death at the early age of 42 is most deeply regretted on all sides, and we extend our sympathy to his wife and family with a genuine feeling of what his irreparable loss must mean to them.

EXPERIMENTS WITH A NEW CACTUS RUBBER.

By Emmet S. Long.

It has recently been the writer's privilege to experiment with a gum extracted from the American cactus, and the results have so far been so entirely satisfactory that the subject should undoubtedly be of interest to every one connected with the rubber industry. The war has certainly disclosed the necessity, or at least the desirability, of producing on as large a scale as possible a portion at least of the rubber requirements of this country, and for this reason, as well as for the economic betterment of the rubber industry itself, there has resulted considerable activity in the investigation of this important question.

Several years ago the writer had occasion to do considerable experimenting with the extraction and compounding with rubber of a gum derived from the Ocotillo plant, more particularly for the purpose of obtaining a gum which would replace guayule. This plant ranges from five to twenty-five feet in height, growing extensively in certain parts of Arizona and California. The results were satisfactory to a certain extent, but due to the solvent-distillation method of extraction employed, the gum contained a large percentage of resins which seriously affected the cure when used in large percentages in the compound. Later the destructive-distillation process with subsequent refining was evolved with the assistance of Government chemists, and it is reported that a much superior product is now being produced in large quantities at the large plant in Arizona.

The cactus gum mentioned at the beginning of this article is found in paying quantities in two different varieties of cactus, one the spineless, or cultivated cactus developed by Burbank, and the other the prickly pear or wild species. Spineless cactus has been raised in many parts of Southern California as food for cattle. It was soon learned, however, that many cattle died, probably as a result of the insoluble gum content. The plant consists of a number of lobes somewhat similar in shape to an inverted hot water bottle, each lobe projecting outward and upward from the edge of the one underneath, the number of lobes depending upon the age of the plant. It is easily propagated by breaking of these lobes and planting them in the ground. The plant is very hardy, and has the advantage of being easily cultivated upon practically worthless soil, or in localities where the rainfall is very slight.

Prickly pear, or *Opuntia vulgaris* grows extensively in many parts of Arizona, California, Nevada, and other tropical parts of the United States. It is somewhat similar in structure to the spineless cactus, but is covered with long, sharp needles. It bears an edible fruit of a purplish color also covered with spines. Like the spineless, it is very easily propagated and attains a height of seven or nine feet. Unlike Ocotillo and many other gum-bearing plants, the rubber in these two varieties of cactus occurs as a latex and yields a sticky white liquid from the abraded surface if pressure be applied by the fingers. By special treatment of the latex and subsequent refining, an amber colored gum resembling smoked sheet in color and guayule in physical properties is obtained, although the gum when thoroughly dried is considerably less plastic than guayule. It is reported that the gum can be produced at a price to compete favourably with guayule and crude rubber.

Following is a summary of some of the experiments made with gum from the spineless cactus :—

SAMPLE 1.

	Per Cent.
Smoked sheet rubber ...	... 50
Cactus rubber ...	... 40
Compound (mineral ingredients) ...	10

This compound was mixed upon the mill in the usual manner and contained only the amount of sulphur usually required to vulcanize a stock having 90 per cent smoked sheet. It mixed easily on the rolls at a much lower temperature than that which would have been required for pure smoked sheet. The next day test strips were cured in the press and were found to have high tensile strength and elasticity, showing that the gum vulcanizes perfectly in about the same length of time required for plantation rubber Another portion was used to friction a sample of belting duck which was found upon examination to be thoroughly impregnated with the gum. A very tacky cement was made from the remaining portion by dissolving in benzol.

SAMPLE 2.

	Per Cent.
Smoked sheet	... 20
Auto reclaim	 20
Cactus rubber	... 20
Compound	 40

In spite of the fact that this stock was mixed on a relatively cold mill, it retained a sticky surface after calendering, and showed no tendency to bloom in the raw state. It would seem from this that the use of the gum in repair stocks and especially in those containing large amounts of carbon black would be advantageous, due to the necessity of preserving a tacky surface indefinitely, and the lower temperature at which the stock could be milled would minimise the danger of burning when use is made of certain organic accelerators. Part of Sample 2 was used to skim-coat and cover the fabric mentioned above, which was then made into a piece of belting.

SAMPLE 3.

	Per Cent.
Smoked sheet	... 10
Auto reclaim	... 20
Cactus rubber	... 17
Compound	... 53

It was the object of this mixture to estimate the value of the gum in a cheaper compound containing a larger percentage of minerals. No difficulty was encountered in milling, and the stock was made into various kinds of articles of comparatively good quality.

SAMPLE 4.

	Per Cent.
Cactus rubber	... 10
Reclaimed	... 60
Compound	.. 30

This was a regular heel compound in which 10 per cent. smoked sheet would ordinarily have been used. The smoked sheet was replaced entirely with the cactus rubber without reducing the quality of the heels so far as could be determined. It is interesting to note that the reclaimed rubber used in this case would not stick to the rolls and could not be milled until about two pounds of the cactus rubber was added, when it immediately began to spread out evenly over the roll and continued to

adhere thereto until the milling was completed. A number of rubber heels were made from this stock, all of which appeared to be of good qual ty.

It is the opinion of the writer, as well as of others who assisted in the experiments, that the gum is in every way equal to guayule and in some respects superior, among which may be mentioned the readiness with which it vulcanizes and the extent to which it will actually replace crude rubber without an apparent reduction in the quality of the finished product. This would evidently place it in a class with crude rubber itself. For use in frictions where penetrating qualities are necessary the gum possesses this property to a marked degree.

The results of these experiments indicate that it may be only a question of time until America may have a new and important industry—the production of rubber from her deserts and waste lands. Los Angeles is already the cynosure of the eyes in the rubber world as the nucleus of a new and rapidly growing rubber manufacturing centre. The production of long-staple cotton of highest quality in Southern California has quickly sprung from infancy to a well recognised commercial success, and if the cactus rubber possibilities materialize, the United States and even California will be able to produce a complete tire from her own raw materials.—(*The India Rubber World*).

PLANTATION FUTURES.

A FRIEND in the Far East advises the Editor of this journal (*India Rubber World*) that within five years the rubber plantations in India, Ceylon and the Malay States w ll be run by Soviets. This change of ownership will come about through a union of the Russians under Lenine, and the Hindus and Mohammedans of india, who will throw off the "British Yoke". This would mean $10 rubber and a greatly lessened production. It would also be "Red Rubber" in the worst sense of the term.

If memory does not play us false the same source predicted the destruction of Malaysian plantations by disease before 1918. The disease came, but the planters promptly stamped it out. So, too, will the red disease be stamped out in the Far Eastern possessions.

Nevertheless, not that we believe there is any such danger in sight, America as the biggest user of crude rubber should look far ahead for its supplies. The Philippines for planting are ideal once the Filipino will allow it to be done as the rest of the world does it. Then, too, there are our own rubber producers guayule and *Chrysothamnus*. Of the latter, Luther Burbank, the great plant wizard, in a letter to one of our staff, says that there is not a shadow of a doubt that by analysis of the different individual plants from different localities the rubber content of some will be found to be double that of others, and by starting with these high rubber content plants, and growing from these, any good plant breeder could originate a plant in a reasonably short period that would produce twice as much as the average wild ones do. He says this is a very moderate estimate, as it would not be surprising that a plant should be constructed which would produce ten times the results of the wild ones. Of course vigor is one of the things to be considered, and possibly compactness of growth, and other matters which would come up during the work of improvement.

A seven per cent content has already been found. Double this would be fourteen per cent, and ten times as much would be a bonanza. Anyhow, fourteen or seventy, it's worth working for.

NOTES AND NEWS.

Coffee.

After its period of depression, it is good news to learn from home by the mail that the steady demand for good liquoring coffee, reported recently, continues. *The Produce Markets' Review* says :—" It is to be remembered that, while the comparative shortage of Costa Rica has not yet made itself felt, buyers who defer their purchase too long may find a difficulty in filling their requirements, and in avoiding parcels which are tainted. There is good value shown in Nairobi and Uganda at present values. It is predicted by some that, when public sales re-open next week, prices of all descriptions will be firmer."

The Planters' Chronicle at the Play.

We give below the *dramatis personæ* of " General Post" referred to on another page :—

Sir Dennys Broughton, Bart ...	...	... A. F. Simpson.
Lady Broughton ...	" His Wife"	... Mrs. Webber.
Alec	" His Son"	... E. Barnardiston.
Betty	" His Daughter"	... Mrs. Teversham.
Wilson	" His Butler"	... R. Mackie.
Edward Smith ...	" His Tailor"	... A. R. Knapp.
Albert Smith ...	" Edward Smith's brother"	...W. Scott Brown.

SCENE.

Morning room of Sir Dennys Broughton's residence, Grange Court, near Sheffingham.

Act I.....1911. Act II.....1915. Act III.....1919.

Some Week End.

Phew! What a life! We wonder how many people were glad to see the Anamalai people pushing off on Wednesday, and at the same time thinking (and saying) " will ye no' come back again?"

Ceylon Tea.

The following figures of Ceylon Tea exported by rail *via* Talaimannar are taken from the " Ceylon Chamber of Commerce Weekly Report," dated 16th August.

Kumbakonam.	500 lbs.
Madras	2,251 ,,
Karaikkal	153 ,,
Total.	2,904 ,,

Hookworm.

We understand from General Giffard that Thymol may be available fairly cheap from

Messrs J. V. Lakhani,
D. J. Sind College,
Karachi

The Continental Trading Society (Incorporated in Holland) of 83, Old China Bazaar Street, Calcutta, also informs us that they are preparing Thymol and Hookworm tablets, the latter being supplied to Institutes under the supervision of the official in charge of the Hookworm Campaign in Bengal. They will be glad to send samples to enquirers.

Prickly Pear.

We are constantly hearing of what the Americans are going to do to replace foreign grown rubber; Guayule and Chrysothamnus have each recently been before the lime light, and we now read that Prickly Pear or *Opuntia vulgaris* may yet be found of use to the world in general and to America in particular.

We do not, however, anticipate any rush to buy up the extensive area under this vulgar plant in the Coimbatore District for some time to come yet.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

28th August, 1920.

Dear Sir,

I see that the Statisticomaniacs have got a resolution passed, asking Government to make statistics compulsory. Why not try a little common sense first ? For instance, for railways. There are always roads on a proposed railway route and (unfortunately) always a large number of tolls. Why not engage the toll-keepers ,for a monetary consideration, to keep a tally of *full* carts passing in either direction, and give a prize for the most carefully sent in return ? But this is too simple for our economists, who would set up an expensive apparatus and then complain, because A had forgotten to include his weekly bazaar things, or B had included 6 sheep, which as a matter of fact, had walked up. Would they propose imprisonment for inaccurate figures, or only a fine ? It would be easy for planters to return their crops, manures, etc., but every little shop-keeper, and every little ryot would have to return in *maunds* their oil, straw, chillies, paddy, etc., carted about. Not that, I believe, our generation will see any fresh railways, not if our statisticomaniacs were to bury themselves up to the neck in statistics and then set fire to them. The invariable reply is " Railways " ? Oh dear no. But see this pretty model of a clockwork train, by Wildcat & Swindle, warranted to run by personal magnetism only. Oh, have you heard of the monorail ? I forget the technical terms, but it was supposed to balance itself by two whirligig things going in opposite directions. Symbolic of much.

Yours ever,

ONE OF THEM.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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LABOUR.

It is always as well to know what is going on in the enemy camp, and for this reason if for no other, we may be excused for filling a considerable amount of our space this week with extracts from the report of the Executive of the General Labour Committee, British Malaya, on Indian labour and labourers. Let us explain :

In recent months our friends across the bay have been faced with a decided reluctance on the part of the Tamil cooly to emigrate to the Federated Malay States. Various reasons have been put forward for this, the adverse exchange for example, the higher standard of living now obtaining in India, and the increased demand, not only in India but in other countries, Ceylon for instance, dependent wholly or partially on Indian labour. We must give our friends credit for the promptitude with which they have gone out to meet their difficulties, and for the exactitude with which they have placed their finger upon the reasons for the shortage and the correct remedial measures necessary to cure it. Briefly, these amount, as we have already said in these pages to making the country more attractive, to giving the cooly something he wtll not get elsewhere, and in addition, working from the other end of the problem, studying the labour, its manners, its customs, its standard of living, and its 101 little peculiarities in its home life. The Committee which has now presented its report was formed on a suggestion made to the Planters' Association of Malaya by the Indian Immigration Committee, and there can be no doubt about the immense amount of pains it has taken, with success too, in its task. They have endeavoured to point out that it is the task of the

planter in Malaya to restore the country to her former pre-eminent position in the labour market. That position was obtained in the Madras Presidency, says the report, by offering higher wages and better conditions of employment than other countries were offering, but the labourer does not now regard Malaya as his El Dorado, a place where wealth is easily to be made. Let us examine carefully then how it is proposed to restore this latter impression in the mind of the Tamil cooly, for it is of the utmost importance to us here in S. India. We are sometimes inclined to think that planters here place too much reliance on the fact that their estates are situated in the cooly's own country, and that the absence of the sea journey is such an immense advantage that little or no persuasion is necessary to convince the cooly of the benefits thus accruing. As a matter of fact, to a new connection the position of the estate is but a hazy idea, and the Anamalais, let us say, is just as much a foreign country to the Ganjam cooly as the F. M. S. or Ceylon, *before he goes there*. We ought therefore to consider our position from precisely the same point of view as these two countries, and compare our own efforts to retain and increase what we have with those of Ceylon and the F. M. S. In the latter country, at least, that is precisely what they have done. It is not sufficient, they say, to find out what is the average daily wage now paid to an agricultural labourer in the Madras Presidency and offer a moderate advance on that. It must be borne in mind, the Executive Committee points out, that while the standard of living for the labourer in India has been considerably raised, the change in Malaya has been relatively small. The demand for labour in India itself is unprecedented, while Ceylon is putting her house in order by wiping off, as a start, £3,000,000 worth of advances. It is to meet these factors that the F. M. S. planters propose the drastic changes now before us. The most interesting of all the recommendations is naturally that concerning the wages of the cooly. Just as, in India, there is a body of planters of the old school in the F.M.S. which has steadily opposed a rise in rates of pay, the report agrees that increases in pay are economically unsound when used as a measure to meet temporary difficulties, and we all agree that, once raised, it is an extremely difficult matter to reduce rates without considerable trouble. The Committee's recommendation of a minimum wage of 50 cents for males and 40 cents for females is based on the cost, in normal times, of a gantang of rice, and ,since it is proposed to sell rice at 50 cents a gantang, the estate continuing to bear the loss, the wage, it will be seen, is calculated to ensure a certain standard of living. This is a point which has not so far been sufficiently studied in S. India, where there has been a promiscuous raising of rates, granting of concessions, etc , in recent months which have no relation to the cooly's standard of living, either in normal or in the present abnormal times. There has not been, in fact, sufficient co-ordination in this respect, with the result that labour is distracted, owing to the different conditions obtaining on various estates being advertised in the same villages at the same time.

We wish we could give our readers the report *in extenso*. It is a monument of careful industry and will go far, we believe, to increase the number of emigrants from this country if its recommendations are carried out. And how apt things sometimes are. We publish to-day the proceedings of the Nilgiri-Wynaad Planters Association, containing a resolution to the effect that the cost of recruiting in new areas should be borne by a reduction in the present cost of the Labour Department, which does not, apparently, give value for its Rs. 1,70,000. Well, the F. M. S. is apparently prepared to pay for its labour on a scale which is an eye-opener to most people.

NILGIRI-WYNAAD PLANTERS' ASSOCIATION.

Proceedings of a General Meeting, held at Gudalur at 11-30 a. m. on 12th August, 1920.

PRESENT.—Messrs. J. S. Nicolls (Chairman), J. Aird (Vice-Chairman), J. H. Wapshare, J. E. Bisset, G. W. Fulcher, J. W. G. Bisset, W. B. de Courcy, H. C. Davies, G. A. Rutter, and F. W. F. Fletcher (Honorary Secretary.) *Visitor.*—Mr. Leslie.

The proceedings of the last Meeting were confirmed.

MEMORANDUM AND ARTICLES OF ASSOCIATION.—These had previously been circulated to all members. The Honorary Secretary said that, so far as he could see, the only points which required consideration were the following :—

(1) The words " planting estate " in para 4 were meaningless, as an estate was not an active agent and did not plant itself.

(2) Under para 6, each unit of 25 acres carried a vote. By the Association Rules, a member had a vote for every Rs. 25 he subscribed. Something could be said for each point of view. Votes on a subscription basis gave the tea man a great, perhaps an undue advantage, *e. g.* the owner of 100 acres of coffee paid Rs. 100 and had 4 votes : the owner of 100 acres of tea paid Rs. 150 and had 6 votes. On the other hand, it might well be argued that the more a man paid the larger should be his voting power.

(3) Throughout the Articles " the Secretary" was referred to, whereas the rules provided for an Honorary Secretary. Probably the word "Honorary " had been omitted by the Solicitors to the U. P. A. S. I. in order that a paid Secretary might be appointed, if that course was considered necessary or advisable at any time.

After discussion, it was agreed that the Association would accept votes on an acreage basis, as provided in para 6, if it was found at the U. P. A. S. I. Meeting that all other Associations would do the same. The Memorandum and Articles were then signed in triplicate by 7 members, and the Honorary Secretary was instructed to forward them to the Secretary, U. P. A. S. I., with the above comments.

LABOUR RULES. GENERAL.—The Chairman said that some alterations in these would probably be necessary in view of the fact that labour was now being imported from areas outside the present scope of the Labour Department. Acceptance of the rules was deferred pending their discussion at the coming U. P. A. S. I. Meeting.

LABOUR RULES. LOCAL.—The rules drafted by the Honorary Secretary were referred to a Committee comprising Messrs. Aird, Davies, Fulcher and the Honorary Secretary. A Special Meeting will be called to consider their report.

MOTOR SERVICE TO CALICUT.—The Honorary Secretary said he had not, to date, received any reply from the Walford Transport, Ld., to his proposal for a motor service. (*Note:*— A reply has since been received to the effect that their Managing Director is at home buying vehicles, and that he will come down to discuss the question with the Association on his return, early in October).

ROADS AND COMMUNICATIONS.—The Honorary Secretary said that, in respect of his request to the District Board Engineer that the bridges *en route* should be made capable of carrying a load of at least 5 tons, he had received the stereotyped and non-committal reply that " steps would be

taken as soon as funds are provided." As the District Board had been relieved of the cost of maintaining the Ootacamund—Calicut road and the Gudalur—Mysore road, he did not see why funds should not be available at once, and he hoped the District Board Member would endeavour to make the wheels turn a little more quickly. It was resolved that the resolution passed at the Association Meeting on 6th May should be sent officially to the District Board Member, with the request that he would place the matter before the next Meeting of the Board.

POSTS & TELEGRAPHS.—The Honorary Secretary said that, from 10th August, the hours for despatch of telegrams had been altered to 8 to 11 a.m. and 2 to 5 p. m. at all offices in the Nilgiri—Wynaad. The Postmaster-General's letter was recorded with satisfaction. With regard to the appointment of telegraph peons to these offices, the Honorary Secretary said the reply was that the traffic was not sufficient to justify this expenditure. He did not see how this refusal could be brought into line with the obligation the Telegraph Department was under to deliver messages free within a radius of 5 miles of the office, and he would address the Postmaster-General again.

LAND ON COWLE.—The Honorary Secretary said the transfer of Survey No. 100 of Nelliyalam was still under correspondence with the Deputy Tahsildar. It was for the Manager of Mango Range Group to decide whether the land should be acquired, as it was applied for at his instance.

FINANCE.— The Honorary Secretary said the funds in hand were much larger than would be required to cover the current year's expenditure, and he thought it a pity that the money should be allowed to lie idle. He was instructed to place the surplus funds as a fixed deposit, for six months, with the Bank of Madras.

NEW RECRUITING AREAS.—On this item, a long discussion took place, which turned chiefly on whether the Labour Department did or did not intend to add direct recruiting to its functions. Mr. Fletcher said it was unfortunate that planters did not known what proposals, if any, would be laid before the coming U. P. A. S. I. Meeting, but he hoped that District Associations would be given the fullest opportunity of examining any proposal involving a larger expenditure on the Department — and consequently an enhanced subscription — before it was sanctioned. The consensus of opinion was that at present subscribers do not get an adequate return for their money. The following resolution was passed:—

> "That, in the event of direct recruiting being taken up by the U. P. A. "S. I. Labour Department, our delegates be instructed to ask "whether the money required for supervision cannot be found by "retrenchment in the present expenditure on the Department, "approximately Rs. 1,70,000 per annum."

U. P. A. S. I. AGENDA.—This was laid on the table, together with the accounts.

INSTRUCTIONS TO DELEGATES.—Messrs. Nicolls and Aird were elected as delegates, and instructions were given them on certain matters which the Association wished to be placed before the U. P. A. S. I, Annual Meeting.

CORRESPONDENCE.—The correspondence on matters of importance since the last Meeting was read, and dealt with.

(Signed) J. S. NICOLLS,
Chairman.
(,,) F. W. F. FLETCHER,
Honorary Secretary.

A RUBBER FACTORY FOR SOUTH INDIA.

Under the heading "Views and Reviews", the *India Rubber Journal* has recently featured a weekly page of comment on scientific and industrial subjects contributed by Dr. Philip Schidrowitz. This page, always interesting, aptly deals this week with the question of the shortage of long-staple cotton, and, in view of our allusion two weeks ago to the control of the Rubber Market by the cotton position, we publish below Dr. Schidrowitz's views. It may be thought that, in a great cotton-producing country like India, no fear need be entertained of any shortage—as a matter of fact it is entirely a question of staple, and so long as India is unable to evolve a long-staple cotton the setting up of the proposed Rubber Factory, even in the midst of a known cotton-producing tract, must be attended with grave risks. Dr. Schidrowitz says.—

Next to rubber, long-staple cotton is undoubtedly the most important raw material of the rubber manufacturing industry. As is well known, for some time past tyre makers have been seriously concerned at the shortage of long-staples, and this, no doubt, is the main reason for the acquisition or development of cotton mills by large makers. According to a most interesting article on "Tyre Fabric and Long-Staple Cotton," by Mr. L. Alwyn-Schmidt, in the last issue of the "India-Rubber World," the prospect of relief in the immediate future is somewhat problematical. In this regard we stand in a better position than the United States

Predominant Position of the British Empire.

Of the best Sea Island grades there is not enough to go round, and only one-half of this is produced in America. England controls some 89 per cent. of the lower grade Sea Islands and best Egyptian, whereas less than 10 per cent. are grown in the States. Further, as regards lower graders (Egyptian, American, and Peruvian long-stables), some 70 per cent. are produced within the British Empire. Of the estimated supplies for 1921, namely 330,000,000 pounds, not more than one-quarter is expected to consist of American cotton.

According to the writer mentioned above, it is estimated that 50,000,000 tyres will be required this year, and 60,000,000 next year. On this basis nearly 400,000,000 pounds of long-staples will be wanted, and the supply is likely to fall some 70,000,000 pounds short of this. It is indeed paradoxical, as he points out, that such a situation should arise in the United States, the largest cotton-producing country in the world.

The ravages of the boll-weevil and the indolence of the cotton-growers are mentioned as the main causes of the trouble. "Having had a practical monopoly for many years," says Mr. Alwyn-Schmidt, "in the production of the best long-staple cotton, so absolutely essential to the manufacture of many cotton fabrics, our cotton-growers have permitted not only this monopoly to pass from their hands, but have also looked on while the pest destroyed what was left of their former possessions. To-day the Sea Island production is practically negligible, and the American tyre industry is dependent upon foreign producers for one of its most important raw materials."

American Tyre Industry and Raw Materials.

There are a number of signs that the United States rubber industry is generally uneasy about the fact that it is dependent on outside sources for its two main raw materials, rubber and long-staple cotton. The attempt to create a reserve of home-grown rubber (such as that from the chrysothemus bush, recently mentioned on this page) is a symptom, as much as is the article under review, of this feelings of United States tyre-makers. Americans, of course, know perfectly well that it will never be the policy of

the British Empire to discourage its most important customer, and that even in the case of a world shortage we should take a good long view of the position; still, the feeling is there, and has to be recognised.

If America depends upon us for her raw materials, it must not be forgotten that the British rubber-growing industry is at present very much dependent on America, for the latter, as is well known, absorbs rather more than two-thirds of all the plantation rubber that comes to market. The 200,000 tons of plantation rubber which the United States can absorb represent, at 2s. per pound, some £45,000,000, which sum, capitalised at 5 per cent., amounts to something like one-quarter of the total cost of the war to this country. It is evident, then, that although in case of a famine of tyre-making fabrics we should necessarily see to it that our home manufacturers did not come off second best, it would be the height of folly not to strain every nerve to keep trans Atlantic users supplied as fully as possible.

Development of Cotton Supplies.

While it is not in the least likely, in my opinion, that the United States, as such, will be able to produce more than a very small proportion of the rubber needed for her industries, Mr. Alwyn-Schmidt is no doubt right in suggesting that the best thing the American tyre industry can do to correct the cotton shortage is to aid in increasing the supply of long-staples. He points out, quite correctly, as I think, that the shortage in the immediate future is likely to be felt as severely in Europe as in America. The rapid development of the supply of high grade cotton is, perhaps, next in order of importance to the welfare of the rubber and motor industries to the maintenance of the motor fuel supplies.

The present shortage of long-staples has put up the tyre makers' costs enormously. What the result of an actual famine would be in this direction is more than doubtful. Coupled with mass motor production and other factors, it is quite on the cards that, as regards the cheaper cars, a set of tyres will cost more than the car itself. On the other hand, cotton-growers should remember that an acute shortage and raising of the price might well lead to the development of a tyre from which canvas, as a constituent, was eliminated. It is fairly clear that a bountiful supply of cheap long-staples would, in the long run, be best for all concerned, including the cotton-grower.

The writer in the *India Rubber World* quoted above believes that it will take American cotton-growers three or even four years to "catch up with their opportunity," and that in the meantime the rapidly growing motor industry may have enormously increased the demand for tyres. However, even at the present day the demand has outgrown the facilities for handling the production. The spindles and looms for dealing with the extra 70 million pounds of long-staples required are not available, and it is pointed out that the getting of additional industrial equipment to-day is more difficult than increasing agricultural production. The main difficulty in this regard (in the United States) is that tyre-makers will not be able to pay much higher prices, or even the present ones for fabrics in the future.

What is the Inducement to the Grower?

This being so, what inducement is there for the grower to increase the output? The reply is that the production of long-staple cotton offers a special inducement, because, when once firmly established, it brings a better result for labour and other costs than do the lower grades. But tyre-makers must be in a position to offer a steady market to the producers. It is fairly clear that the interests of rubber growers, long-staple cotton growers, and of tyre manufacturers are readily identical and interdependent.

THE EXPERIMENTAL STATIONS.

Particular interest attaches this month to the tour programme of the Government Economic Botanist (Mr. F. R. Parnell) who is in charge of the duties of Mr. Anstead (on furlough), Deputy Director of Agriculture, Planting Distr.cts. Mr. Parnell leaves Coimbatore on Thursday, 23rd September, for Mooply, where he will inspect the Rubber Experiment Station, proceeding on the 26th to Mundakayam. Here, in conjunction with Mr. W. MacRae, who is now Acting Imperial Mycologist, the Rubber Mycologist's laboratory will be inspected and the first Assistant installed, so that mycological work may be started in anticipation of the appointment of the Mycologist for Rubber. The Government Agricultural Chemist will also form one of the party at Mundakayam.

The Peermade Tea Experiment Station will be visited on 30th September and 1st October by Mr. Parnell and Dr. Norris, who proceed from there to Cannanore, Coorg (where the Coffee Experiment Station will be inspected) the Wynaad, Eddivanna Estate, and Kerala. The party returns to Coimbatore on 17th October. A detailed programme of the tour is published elsewhere in this issue.

The Deputy Director of Agriculture,

(PLANTING DISTRICTS.)

Tour Programme of the Deputy Director of Agriculture, Planting Districts, for the months of September and October, 1920.

September	23rd	Departure.	
Do	24th	Mooply	...Inspect Rubber Experiment Station and see the Manager, Mooply Valley Rubber Co.
Do	26—29	Mundakayam	...See the Rubber Mycologist's Laboratory and the neighbouring Estates. Mr. MacRae, Imperial Mycologist, will be there, arranging for Mycological work to be started.
Do	30th—Oct. 1st.	Peermade	...Inspect Tea Experiment Station.
October	3rd	Cannanore	...On the way to Coorg.
Do	5—10th	In Coorg	...Inspect Coffee Experiment Station, Sidapur, see neighbouring estates and see Mr. Jackson's work on hybridizing Coffee.
Do	11-12th	Wynaad	...See Tea Estates.
Do	13-16th	West Coast	...See Eddivanna Rubber Estate, and Experimental work on Wandur and Kerala Estates.
Do	17th	Return	...Coimbatore.

With the exception of Mooply, the Government Agricultural Chemist will be accompanying me.

(Signed) F. R. PARNELL,
Government Economic Botanist in Charge,
Office of the Deputy Director of Agriculture,
Planting Districts.

INDIAN LABOUR IN THE F. M. S.

We give below some extracts from the Report of the Executive of the General Labour Committee, British Malaya, on Indian Labour and labourers:—

STANDARD OF LIVING.

The figures show that the total spendings exceed the total earnings of the labourers concerned; and that if the market or cost price of rice had been charged instead of rice being issued at, roughly, 40 cents a gantang, the rice bill each month would have been $4·95 a head instead of $1·50, and that at the present prices of other commodities, the amount available to be spent on general goods was not enough for a labourer to live upon at a reasonably decent standard.

Standard of living and wages are inter-dependent, and practically inseparable. In judging of any real standard of living amongst Indian labourers in Malaya, consideration must be given not only to the actual food, or bodily comfort of the labourer to emigrate to his country does not lie solely in his ability to obtain more and better food; but also in the possib lity of his being able, during his two to three years average stay in this country, to remit small amounts of money to relations and dependents in India, and even to take back a certain amount of savings. A comparison of such a standard of living in Malaya in 1919-1920 with that in 1913-1914 would seem to show that while with perhaps few exceptions the Indian labourer's wages have remained practically stationary his expenditure (exclusive of rice) has gradually increased with the result that though he may enjoy the same standard of comfort as regards actual food, other items in his general standard, *e.g.*, clothes, savings, ornaments for his wife, have been cut down. It may be stated that following on the war the wages of labour, on which the standard of living may be said to depend, have been considerably raised in India: but as regards Indian labour in Malaya the change in the standard of living and wages has been relatively very small during the past 5 years and that to render this country more attractive to the Indian immigrant immediate action on this point seems urgently called for.

Employers of labour should, in the Committee's view, make conditions so attractive to the Indian labourer and offer such inducements to him that he will consider it to be worth his while, and will prefer to emigrate to Malaya rather than to stay in his own country, or seek employment in other countries.

Having regard to the foregoing, the Committee record their opinion that the standard of living among Indian labourers has not increased in Malaya as it has in other countries, and they are of opinion that the standard of living is too low.

It was suggested to the Committee that rice should be issued free of charge to labourers.

The following reasons against issuing free rice are adduced:—

(*a*) Free rice would benefit the man who does not work equally with the man who works.

(*b*) The cost to employers would be too great at present prices.

(*c*) The gift would not be sufficiently appreciated by the recipients.

(*d*) As there is great necessity for the exercise of economy in the use of rice now, and in the future, the issue of free rice would conduce to lack of economy and to waste.

The Committee conclude, therefore, that it is not desirable to issue free rice to estate labourers.

Rice.

It is pointed out that, in considering wages, or remuneration in kind, it is necessary to endeavour to determine the approximate price at which rice will be sold when normal conditions prevail.

It appears possible to deduce from the information supplied to the Committee that the cost price of a gantang of rice may be 50 cents, approximately, when conditions become normal.

The Committee recommend that the system of supplying rice to labourers on estates at less than cost price should be continued, as the present price of rice is too high to make it a feasible proposition, even if it were desirable, to increase wages to cover it. They further point out that the price of rice is artificial and not permanent, and that it would therefore be economically unsound to introduce a permanent measure, such as raising wages, to meet a temporary difficulty.

By a majority, the Committee recommend that rice be supplied to estate labourers at 50 cents a gantang.

Compensation for Adverse Exchange.

The Committee are aware that the position regarding exchange has changed greatly in favour of the Straits during the last few months, and while there is a possibility of the respective values of the dollar and the rupee becoming nearly constant at 2-4d. and 2s. they take the view that the value of the rupee will fluctuate with the price of silver.

The Committee note :—

(*a*) That it is doubtful whether the exchange concessions in force have had the effects hoped for and desired.

(*b*) That many estate labourers do not understand what compensation for adverse exchange means, and how it affects them; and that, in consequence it does not seem generally to have been appreciated and been taken advantage of.

(*c*) That owing to the enhanced cost of living few labourers have savings to remit to India.

(*d*) That nevertheless owing to the increased competition for Indian labour from other countries, it is both necessary and advisable to offer inducements such as exchange compensation to attract labourers to Malaya.

(*e*) That whereas formerly an Indian labourer in Malaya was able to obtain Rs. 1-12-0 for every dollar he saved or remitted, he is able now to get only a little more than one rupee.

The Committee are aware that a section of employers feel that there is no justification for the continuance of exchange concessions. They feel, however, that it might be regarded as a grave breach of faith if the concessions recommended by the Planters' Association of Malaya, the Malacca Planters' Association, the Rubber Growers' Association and other Planting Associations, and largely advertised both here and in India, were withdrawn, and they recommend that estate labourers be permitted to make *bona fide* remittances to India at a preferential rate of exchange.

The Committee are not in favour of leaving so important a matter to the discretion of individuals, and they consider that the concession rate

should be fixed, and that uniform decisions should be arrived at as to what percentage of wages, whether of total earnings or balance pay, or a certain amount *per mensem*, labourers be allowed to remit to India at the preferential rate.

Remittances.

The Committee take the view that the remittances to India made by labourers in Malaya and the savings, whether in actual cash or in jewellery ("the Indian's substitute for a bank balance"), taken back to India by returned labourers, are most important factors in the matter of popularising this country among prospective lebourers.

The Committee are in favour of the preferential rate being Rs 175 for $ 100, and they recommend :—

(*a*) That the maximum amount labourers be allowed to remit at this preferential rate of exchange be $ 3 each *per mensem*.

(*b*) That each labourer's savings may be remitted to India when the sum of not less than $ 10 shall have accumulated.

Bonuses for service.

The Committee are of opinion that, if bonuses were offered, immigrant labourers would thereby have a strong inducement to remain on the estates which recruited them, and be disposed regularly to engage in steady work.

The Committee therefore recommend that bonuses for service be given to estate labourers on the following scale :—

(*a*) A sum of $ 12/- to each labourer who shall have performed one year's continuous service in the employment of one company.

(*b*) A further sum of $18/- to such labourer on completion of a second year's continuous service.

(*c*) A further sum of $ 24 to such labourer on completion of each successive year's continuous service.

They further recommend that such bonuses be retrospective from January 1st, 1920, and that they be paid in full on completion of each year's service.

Having regard to the quantity theory of money, the Committee take the view that increase of money necessarily depreciates the purchasing value of the labourer's wages.

Wages.

Wages, like other things, may be regulated either by competition, or by custom ; but they depend mainly upon demand and supply of labour.

The Committee consider the following points :—

(1) The amount paid daily in wages in the Madras Presidency to agricultural labourers of the type which emigrate to Malaya.

(2) The average cost of living per mensem of such labourers :—

(*a*) Single man.

(*b*) Childless married couple.

(3) The probable margin of savings of such labourers.

(4) The exact price of rice paid by such labourers for the measure equivalent to a gantang.

So far as the Committee have been able to ascertain from a mass of information obtained from numerous sources, the average daily wage paid to male agricultural labourers in the Madras Presidency is between 7 and 8 annas; but in certain districts, e.g., Coimbatore and the Nilgiris, as much as 10 to 12 annas for men and 6 to 8 for women, are reported to be paid.

It was suggested to the Comm ttee that estates should discontinue the practice of supplying rice to their labourers at less than cost price; that compensation in remitting to India for adverse exchange be abolished, and that the value of these concessions be incorporated with an increase of pay, adding thereto such a sum as would be considered adequate to compensate for the enhanced cost of living in other respects.

The Committee are opposed to the straight increase of wages referred to in the proceeding paragraph.

It may be argued that, with a general fall in prices, which some anticipate in the near future, the existing rates of pay would suffice for an improved or higher standard of living, including savings. The Committee do not take this view, but consider it is incumbent upon them, having regard to their finding that the standard of living among labourers in Malaya is too low as compared with other countries, to make a recommendation with regard to wages, in addition to the rice and exchange concessions, and bonuses for service recommended herein.

The Committee consider the suggestion that the basis of an estate labourer's daily pay should be the equivalent of the cost, in normal times, of a gantang of rice.

By a majority, the Committee are of opinion that it is necessary to increase the minimum daily rates of pay to estate labourers, and that such minimum daily rates be as follows:—

(*a*). For a male labourer, 50 cents *per diem*.

(*b*). For a female labourer, 40 cents. *per diem*.

These rates are to apply to able-bodied adult labourers who perform a full day's work.

The Committee believe that it is very desirable to increase as far as possible the proportion of the sexes on estates, and to that end they have recommended that a difference of only 10 cents *per diem* in pay should be made between male and female labourers.

The Committee are of opinion that it would be inadvisable to recommend or to attempt to fix a maximum wage for the whole of labour, as the relative values of labourers have not been ascertained, or are not ascertainable.

The Committee realise that a few healthy and fortunately situated districts which are popular with labourers, who are satisfied with their present pay, and which have a sufficiency of labour, will not welcome the Committee's recommendations.

The Committee do not deem it advisable to recommend different minimum rates for different districts. They consider that uniform minimum

rates of pay should obtain throughout Malaya, and that unity of action on the part of employers is necessary in dealing with the labour question as a whole and in stimulating the recruitment of a sufficiency of labour.

The Committee understand that on many estates a sliding-scale of pay is in force, e. g., if a labourer works 26 days in a month he is paid 5 or 10 cents *per diem* more than the usual rate of pay. The Committee see no objection to estates continuing or adopting this system, or any method of payment based upon results.

Further to the wages actually paid to labourers, the reduction in the price of rice, together with other concessions, constitute a further remuneration.

The following figures, taking the minimum wage at 50 cents a day, are submitted as representing the total cost (in cash and kind) to an employer of one male labourer :—

		$. cts
Wages, say, 26 days at 50 cents equals *per mensem*	...	13·00
Loss on 5 gantangs of rice at, say $1/32 a gantang (cost $6/60, less price issued to labourers $2/50) equals loss to employer *per mensem*	...	4·10
Loss on preferential remittance of $3/ *per mensem* at exchange of, say, Rupees $118/—for $100 equals	...	1·90
Bonus of $12 *per annum* equals *per mensem*	...	1·00
Total	...	20·00

which is equal to 77 cents. *per diem* approximately. In addition, other expenses connected with the importation, housing, sanitation, medical care, etc., of a labourer are estimated to amount to 10 cents a day. If the Recommendations of the Committee are carried out, the all-in cost to an employer of one labourer would thus amount to 87—89 cents. *per diem.*

Co-Operative Estate Shops.

The Committee take the view that the cost of living of estate labourers could be reduced considerably if estate owned and managed shops were established, or a scheme for the co-operative purchase of estate labourers' commodities instituted. Such shops might procure foodstuffs, clothing and other commodities from or through reliable firms who would be asked in return for a virtual monopoly for districts to import, store and distribute goods on a percentage basis thus avoiding profiteering. Profits of such shops, if any, should be handed over to a fund for the benefit of labourers. Such a scheme would also, in the opinion of the Committee, tend to reduce the debts of labourers and would go far to remove the inducement for labourers to incur debts by receiving credit from local shopkeepers. Further, it would ensure the labourer himself reaping the full benefit of the more attractive conditions of employment which, it is believed, will be brought about if the Recommendations of the Committee are given effect to.

Attention is called to the possibility of any such scheme being met with strong and perhaps organised opposition by oriental shop-keepers whose monopoly would be broken thereby.

The Committee will in due course appoint a Special Committee to enquire into the practicability of such a scheme and to frame recommendation.

KANGANIES.

The Committee consider that employers would be well advised to take steps for a better distribution of kanganies who go recruiting in India. The Labour Department report that some employers send two or three kanganies to the same village or group of villages.

The Committee are of opinion that the payment to kanganies of head money would stimulate recruiting.

The Committee consider that detached houses for families would be appreciated, and might be made a reward for long or good service.

A plot of land, 33 feet by 66 feet (or one-twentieth of an acre), should be ample to provide one family with a sufficiency of vegetables. An acre of mature rubber, if good, has a value of, say, $1,500. At 10 per cent. return, it is worth $150 annually to the owner. If the trees were cut out and the land given over to the labourers for food growing, it would mean, from the purely financial point of view, a loss to an estate of $7.50 *per annum* for each of 20 families, which would not be a heavy contribution towards the satisfying of a labour force.

Stock raising and grazing facilities for cattle, goats and sheep, present more difficulties, and might not be possible on every estate : but common grazing enclosures or pasturage grounds might be made available for groups of estates with the aid of the Government.

SETTLEMENT ON LAND.

So far as the Committee are aware, the Indian labourer does not evince much disposition to settle in the country as a cultivator on his own account. The Committee however believe that there is plenty of land in the Peninsula which could be given out to Indians on easy terms; but inducements for them to settle on the land are not great. A permanent cultivation, such as cocoanuts, oil palms or rubber would not be suitable unless land were available near to where they could work and earn wages and such conditions are uncommon. Other forms of cultivation have not been proved to be remunerative in normal times, and the only likely possibility of inducing Indians to take up land would be for Government to nominate certain land products which are in demand and likely to grow well, set aside suitable areas, where available, for their production; subsidise them for a time in some way or other; lend money to *bonafide* settlers for, specific works or purchase of stock, etc. at say 6 per cent. and advertise the scheme widely in India. Benefits under any such scheme might be given as a reward to worthy labourers.

The Committee believe that a colonization scheme would be for the general benefit of Malaya, and would in time open up a new source of supply of labour.

The Committee consider that estates which are to undertake new building programmes should bear in mind the Controller of Labour's recommendations in the matter of establishing estate villages.

The Committee recommend the establishment of schools on all estates with a population of 20 or more children. The school should

be the property of the estate and be managed by the manager of the estate. Attendance should be free and compulsory for children, but adults might in certain cases be permitted to attend on payment of a small fee. Schools will have to be open at all times to the Inspector of Schools; and the Committee are informed that grants under the Education Code would be earned by a reasonably efficient estate school sufficient to meet the greater part of the running expenses.

The type of building recommended is a school house with teacher's quarters attached, but provided the accommodation is sufficient, and building clean and rainproof, there are no express stipulations as the material, cost, etc.

The Committee are aware that parents are usually more anxious that their children should earn money or do household work or run errands than that they should attend school. Some employers also prefer to have their labourers' children work ; but the Committee are of opinion that no child should be permitted to work for more than four hours a day at most, and they recommend that small monetary prizes should be awarded to pupils who attend school regularly and make satisfactory progress.

Infant Welfare.

The Committee consider that every case should be bestowed upon mothers of newly born children, and they recommend that employers supply every female labourer resident upon their places of employment and giving birth to a child, with sufficient food for one month after the birth of such child, and to take care that the female labourer be not required to engage in work for one month unless the Medical Officer shall report sooner that she is fit for work.

In practice it has been found that reasonable care and nourishment of all children under the age of 3 years have been attended with great success; and the Committee consider that any expenditure under this head will inevitably be more than compensated for by the contentment and efficiency of the labour force.

Marriage, etc., of Labourers.

Marriages contracted in Malaya by Indian labourers are not registered in any way, and in many instances are regarded as irregular. This frequently leads to disputes, and the Controller of Labour reports that it is not uncommon for husbands to complain that their wives have gone away with some other man, and for the wife, when sent for, to tear off her "thali," or marriage thread, and swear that she was never the wife but merely the "kept" woman of the complainant, and there being no proper evidence of the marriage, nothing can be done in such cases. The Committee suggest that, when a marriage has been contracted according to Hindu custom by labourers on an estate, the manager should fill in an official form (to be prescribed by the Controller of Labour) with the necessary particulars about the contracting parties and have it duly attested. The Controller of Labour, on receipt of such form, might issue, in duplicate, a Certificate stating the fact of such marriage. One copy could be handed to the parties, and the other filed with the estate records for reference. Such Certificates could in any Court of law be regarded as evidence of marriages while the counterfoils in the Labour Office would be lasting records of marriages. Similarly, in regard to divorce and adoption of children.

(To be Continued)

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

(1)

Increasing the Labour Force.

Dear Sir,—I have read Mr. Martin's letter in Chronicle No. 35, referring to the above. I am rather afraid of entering into the controversy, in case I too am denounced as—shall we say—crassly stupid and densely ignorant, but at the same time it is impossible to allow such juggling with words to pass without protest, however faint, and, may be, unimportant. Mr. Martin was not asked to count the number of miscarriages which occurred without his knowledge, and it is difficult to understand how such a meaning could be taken from XXX's letter. The only possible answer to question 1, asked by XXX is, " I don't know." The probabilities are that miscarriages do occur on Estates without the Manager's knowledge. If so, is that not in itself a state of affairs which deserves, and ought to have, thought and consideration with a view to remedying it if at all possible? And, in order to discover the why and the wherefor, of these occurrences, is it not necessary to have a theory upon which to work ? To hold a theory, and work upon it, is the only possible efficient method of righting a wrong. Blind groping in the dark leads nowhere. Thus, why should one who happens to hold a theory, however impossible it may be from Mr. Martin's point of view, be put down as being either guilty of crass stupidity, or dense ignorance? Yours faithfully,

X4.

" Comic Cuts."

INCREASING THE LABOUR FORCE.

THE EDITOR, *P. C.*

Dear Sir,—I endorse Mr. Martin's view that the *P. C.* has not passed the stage at which the above appellation ceases to be appropriate, with the modification that the term applies to the Journal in parts only. Long may Mr. Martin be spared to contribute in the future, as he has done in the past, to your humorous portions.

I thank Mr. Martin for his very courteous reply, which is obscure in regard to the answering of my two queries. From his general tone, however, I can take it his answers to both are " none," " very few, if any," or " insufficient to warrant further enquiry." Accordingly I cannot but congratulate him on having brought his Estate Labourers up to this enviable high standard of morality. It must have taken him years. Mr. Martin's reference to statistics, Berne or otherwise, (mostly otherwise) hardly applies, as estate labour is a floating and abnormal population,—abnormal in the sense that it chiefly consists of able-bodied adults and their families (or should do so). On my estate the births could, I am sure, be increased at least 100% if various practices employed were done away with, and I would be much indebted to Mr. Martin did he publish his method of abolishing such. X's original and sound suggestion of a substantial bonus for each birth, therefore, goes very much deeper into the question than anything Mr. Martin has to say. Exhortations to the (prospective) mothers on the estate after the manner Mr. Martin follows: thus, " Don't forget you've got to keep it well," will hardly do. But perhaps Mr. Martin can supply another magic phrase to meet the case? With due deference I suggest a judicious use of his telephone number ! ! Mr. Martin is correct in his surmise. The writer is a very youthful S. W., genuinely seeking knowledge at the fountain Head.

X. X. X.

Statistics

Dear Sir,—One final effort to try and convince " One of Them" of the error of his ways of thinking, and this in spite of the quotations of his friend Dickens, which in his letter he brings against me. I do not maintain that Statistics are a cure for all evils, nor am I defending UNNECESSARY Statistics.

The Planters of Ceylon have, through their Statistics, learnt some very valuable information as to the amount of Labour lost on their Estates through various diseases, which, without these figures, they would probably never have realised to the same extent.

Figures have shown them the gravity of their position, and have very strikingly brought out what they have to contend against. Being more go ahead than we are in Southern India, they will in all probability take measures to better their conditions, and prevent, at any rate, an increase of mortality on their Estates.

It is up to them to profit by the knowledge they have gained through Statistics. This information surely shows the value of NECESSARY Statistics.

With reference to the para in the "Times," quoted by ' One of Them." This shows rather clearly what we are to expect if Government decide to make the furnishing of Statistics compulsory, owing to the passive resistance of many of us.

Strongly worded protests will then be useless. We shall be bothered with unnecessary forms to fill up, and we shall experience vexatious delays, which had we only supplied the few statistics called for, voluntarily, would have been avoided.

We must now prepare ourselves for UNNECESSARY Statistics, I fear, if Government steps in, and we have only ourselves to blame.

Yours faithfully,
"PLANTER."

Inter-Planting District Sports.

DEAR SIR,—I was delighted to see from the *Madras Mail*, of 4th instant that suggestions were being made to hold sports between the various District Associations, and I, for one, hope the scheme will materialise, and that at a very early date. It would, I feel sure, create a feeling of " esprit de corps", and the friendly rivalry that would ensue would be all to the good. Each District is far too self-centred, and a scheme such as this that would tend to get Planters together will help in no small measure to make us a more united body, in work as well as in play.

I would suggest that the opportunity of the next General Committee Meeting be taken advantage of. In that all District Associations should be represented, and discussion could take place, thus obviating delays, which are bound to occur if the matter was left to correspondence.

At any rate let us get a

"MOVE ON."

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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CROP RESTRICTIONS.

The general wave of depression passing over the Industrial world at present has made itself particularly felt in those industries in which the planting community of South India is interested, and it is not therefore surprising that the question of restriction of output should again have arisen as a possible means of meeting the present crisis. It will be fresh in the memory of most Rubber planters that the Rubber Growers' Association formulated proposals some two years ago for the restriction of the output of rubber from the East, and that these proposals became unnecessary with the signing of the Armistice. From that date the Rubber Market, without jumping to boom prices, showed a steadiness amounting at times to a small boom, but in recent months we have witnessed a steady decline in values for which we have to find some reason other than the ordinary laws of supply and demand. Thus, we were told last year that the industry was about to enter on an extraordinary period of prosperity. The Motor Car was to become the common means of locomation of even the working man, and the millions of cars requiring a corresponding output of tyres was considered in itself to be sufficient guarantee of a shortage of rubber. Unfortunately, this quite reasonable expectation has been knocked on the head by the difficulty of procuring long staple cotton for the manufacture of tyre fabric, but it is not only this *contretemps* which knocked the bottom of the Rubber Market. Labour, at home, is largely responsible for the position we are now in. The action of the miners, for instance, has had a direct influence on shipping freights; the adverse exchange, the increased cost of living in the East with its concomitant rise in wages, all

these have increased the cost of production enormously, but, because there is plenty of rubber available and because unless manufacturers can buy cheaply the raw material required for their purposes, (in view of the increases in every other branch) prices of rubber goods would soar to an impossible height, the producer has suffered. The position, therefore, is this, that the rubber producer to put it vulgarily is the "mug" in this game. The increased demand is a wash-out for the time being owing to every other branch of the industry, cotton, labour, coal, etc. having forced up prices, and it behoves us to see how best we can come into the circle and force upon buyers a reasonable price commensurate with our position. Various suggestions have been put forward, apart from restriction of output. In France, for instance, a tax on foreign grown rubber was proposed, a measure not likely to find favour with the present Government or the Labour party at home. Then there was the suggestion of controlled selling, which also fell through, and we find ourselves returning again and again to our first love, restriction of output.

To this end, the Rubber Growers' Association recently addressed its members advising the general adoption of alternate day tapping as a means of reducing the crops, and we are now informed that the Association regards the position as grave, and calling for immediate action, in view of the increasing stocks in consuming countries and the large quantities afloat, indicating an unabsorbed surplus this year, and a still worse position in 1921. It is suggested that there should be immediate restriction for the last quarter of this year, and further reductions from the normal in 1921 until the situation clears.

That is the suggestion which Rubber Planters in the East are being asked to adopt. To what extent there will be unanimity of opinion remains to be seen, but that some such measure is desirable at the present juncture would appear to be generally accepted. We understand there will be a meeting of the Rubber Growers' Association shortly, to consider this very important question. South India, of course must take its cue largely from Ceylon and Malaya, and no doubt the decision of these countries will be known by the time the meeting here can take place.

Mention of unanimity reminds us of the proposed restrictions in the output of tea. Our readers will be aware, from perusal of the Indian Tea Association minutes, that this matter has held the attention of the Association for some time. In Ceylon, some indignation has been caused by the suggestion in a Northern India newspaper that the attempt which had been made to restrict shipments of Tea to the United Kingdom had broken down entirely in consequence of the opposition in Ceylon. Whether this is so or not, there is no doubt whatever that unanimity in Calcutta itself was lacking, and altogether the Conferences in London appear to have been abandoned for sheer want of general support. We understand, however, that the matter has been revived, and has now taken the form of a recommendation to reduce the output of tea in Southern India by 20%, over a period of twelve months commencing from the first October next, and based on the average production during the three years 1917, 1918 and 1919, *provided North India and Ceylon agree to an equivalent reduction.* The italics are ours, and it occurs to us that we get no further in these matters often owing to the want of co-ordination between the three producing countries. Northern India may agree if S. Indian and Ceylon agree. Ceylon may agree if South and North India agree, and we are "as you were." Surely there is some way out of this tangle, and we shall arrive some day at a means of closer co-operation among producers.

THE U. P. A. S. I. GAZETTE.

Mr. C. R. T. Congreve, Castlecroft Estate, Valparai P. O., *via* Pollachi, was elected Chairman of the U. P. A. S. I. at the Ordinary General Meeting of the Association at Bangalore in August last.

The Hon'ble Mr. J. A. Richardson, St. Ives, Ootacamund, Nilgiris, was elected Planting member of the Madras Legislative Council in 1919, and is a candidate for re-election under the Reforms Scheme at the coming elections.

The following gentlemen were elected Members of the Executive Committee, U. P. A. S. I. at the last meeting :—

For Tea ... W. A. Lee, Esq., Munnar P. O., *via* Periakulam.
For Rubber ... A. H. Mead, Esq., Palapilly P. O., Cochin.
For Coffee ... P. G. Tipping, Esq , Fairlands, Sidapur, Coorg.

The Members in Waiting are :—

For Tea ... A. S. Dandison, Esq., Kateri P. O., Nilgiris.
For Rubber ... Edward Lord, Esq., Quilon.
For Coffee ... Lt.-Col. W. L. Crawford, D S.O., Ossur, Hassan.

Head Office.

Mr. H. Waddington is Secretary, U.P.A.S.I , and Director of the Labour Department. Address, Coimbatore.

Mr. Edwin Vincent is Assistant Secretary, U. P. A. S. I., and Superintendent, U. P. A. S. I., Labour Department, Coimbatore.

Mr. J. N. A. Eaton is Assistant Superintendent, U. P. A. S. I., Labour Department, Coimbatore.

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Coimbatore is also the Headquarters of the Deputy Director of Agriculture, Planting Districts, the Government Agricultural Chemist, the Government Mycologist, etc. They should be addressed by their official titles thus :—

The Deputy Director of Agriculture,
(Planting Districts),
Lawley Road P. O., Coimbatore.

Samples for analysis should be sent direct to the Government Agricultural Chemist, Lawley Road P. O., Coimbatore, specimens of plant diseases, etc., to the Government Mycologist, Lawley Road P. O , Coimbatore, and specimens of insects to the Government Entomologist, Lawley Road P. O., Coimbatore.

The Labour Department.

In addition to the Coimbatore Division, there are five divisions of the Labour Department, *viz* : –

At Mangalore, Superintendent Mr. F. W. Winterbotham (on furlough.) Mr. G. P. Walker is acting Superintendent. Telegrams—"Upasi Mangalore."

At Mysore, Superintendent Mr. C. C. Kent. Assistant, Mr, J. H. Bennett. Telegrams—" Upasi Mysore."

At Chingleput, Superintendent Mr. A. H. Mackie.
Telegrams—" Upasi Chingleput"

At Madura, Superintendent Mr. Bruce Tailyour.
Telegrams—" Upasi Madura."

At Palamcotta, Superintendent Mr. A. G. A. Dunning.
Telegrams—" Upasi Palamcottah."

The Districts.

There are Fourteen Associations, affiliated to the U. P. A. S. I, viz : –

The Anamalais Planters' Association :—

Chairman ... C. R. T. Congreve, Esq., Castlecroft Estate, Valparai P. O., via Pollachi.

Honorary Secretary ... J. E. Sampson, Esq., Pachaimalai Estate, Valparai P. O., via Pollachi.

The Bababudin Planters' Association :—

Chairman ... S. H. Dennis, Esq., Siddakan Estate, Santaveri P. O., Kadur District.

Honorary Secretary ... Sam J. Wilson, Esq., Kulhutty, Santaveri P. O., Kadur District.

The Central Travancore Planters' Association :—

Chairman ... E. C. Sylvester, Esq., Vandiperiyar P. O., Travancore.

Honorary Secretary ... W. A. J. Milner, Esq., Twyford Estate, Peermade, Travancore.

The Coorg Planters' Association :—

Chairman ... W. M. Ball, Esq., Closeburn Estate, Mercara.

Honorary Secretary ... A. J. Wright, Esq., Kariekollie Estate, Mercara P. O.

The Kanan Devan Planters' Association :—

Chairman ... A. C. Murray, Esq, Nallatunni Estate, Munnar P. O.

Honorary Secretary ... E. H. Francis, Esq., Nyamakad, Munnar P. O.

The Mundakayam Planters' Association :—

Chairman ...J. J. Murphy, Esq., Yendayar Estate, Mundakayam P. O.

Honorary Secretary ... E. H. Moulton, Esq., Eldorado Estate, Mundakayam.

The Nilgiri Planters' Association :—

Chairman ... A. K. Weld Downing, Esq., Frith Hall, Hulical P. O.

Honorary Secretary ... A. N. Hearn, Esq., Sutton Estate, Kullakamby P. O.

The Nilgiri-Wynaad Planters' Association :—

Chairman ... J. S. Nicolls, Esq., Daverashola Estate, Devarashola P. O.

Honorary Secretary ... F. W. F. Fletcher, Esq , Rockwood Estate, Nellakottah.

The North Mysore Planters' Association :—

Chairman ... C. H. Browne, Esq., Sallebile P. O., Kadur District.

Honorary Secretary ... W. H. Reed, Esq., Mavinkere, Kalasa P. O.

The South Mysore Planters' Association:—

Chairman ... Lieut.-Col. W. L. Crawford, Ossur, Hassan District.

Honorary Secretary ... T. Anderson, Esq., Barguai, Saklaspur P. O.

The South Travancore Planters' Association:—

Chairman ... J. B. Cook, Esq., Corrimoney, Ashamboo P. O., Travancore.

Honorary Secretary ... J. R. N. Pryde, Esq , Bonnaccord, Kallar Bridge P. O., Travancore.

West Coast Planters' Association:—

Chairman .. S. P. Eaton, Esq., Pullangode Estate, Pullancode P. O.

Honorary Secretary ... G. Bayzand, Esq., Pullangode Estate, Pullangode P. O.

The Wynaad Planters' Association:—

Honorary Secretary ... J. A. Gwynne, Esq., Chundale Estate, Vayitri P. O.

The Shevaroy Planters' Association:—

Honorary Secretary ... H. S. Dickins, Esq., Tipperary Estate, Yercaud P. O., Shevaroys.

(To be continued.)

SHEVAROY PLANTERS' ASSOCIATION.

Minutes of a Special General Meeting of the Shevaroy Planters' Association, held on the 9th September at the Victoria Rooms, Yercaud, at 2 p. m.

PRESENT.—Mesdames V. A. Lechler, and M. A. Short, Miss Doris Lechler, Messrs. W. I. A. Lechler, C. Rahm, V. L. Travers Drapes, S. Campbell, R. A. Gilby, Rev. F. Studer, Rev. Father Capelle, S. M. Hight, L. C. Hight, and H. S. Dickins, Chairman and Honorary Secretary.

Notice calling the Meeting was read.

Read and confirmed proceedings of the Special General Meeting, held on 19th September.

Report of delegates to Annual General Meeting at Bangalore. Messrs. W. I. A. Lechler and H. S. Dickins represented the Association at the U. P. A. S. I. Meeting, on August 23rd, 1920, the report read by Mr. H. S. Dickins.

Proposed by V. L. Travers Drapes and seconded by R. A. Gilby :—"That a hearty vote of thanks be accorded to the Delegates for the interesting report, the report to be printed and circulated amongst the Members." Carried unanimously.

Proposed by C. Rahm, seconded by S. M. Hight :—"That Delegates' expenses be sanctioned at Rs. 100 each out of the Association Funds." Carried unanimously.

CART HIRE RATES.—Read letter from President, Salem District Board, asking for views of the Association on proposed enhancement of existing rates. "It is resolved that this Association do not consider any revision in the existing rates necessary."

POLICE REWARD FUND.—Proposed by S. M. Hight, seconded by W. I. A. Lechler :—"That the original Fund for rewarding detection and conviction in coffee and other stealing cases be rev ved for this purpose, and an annual cess of 1 anna per acre be asked for from Members of the Association, that this fund be utilised for rewarding the Police and others concerned." Carried unanimously.

FINANCE.—Proposed by V. L. Travers Drapes, seconded by R. A. Gilby :—"That the funds and accounts of the Association be examined by the Standing Committee and placed on a sound basis." Carried.

ROADS AND COMMUNICATIONS.—Read letter from the Collector of Salem, through R. F. Carey, Chairman, Yercaud Union *re* metalling parts of Pentland Circular Road, enquiring if Planters were willing to contribute towards cost of the same, and to what amount.

Resolved that most of the Planters concerned were willing to contribute, after estimates were submitted to the Association.

Articles and Memorandum of Association were signed by 7 members, and by two witnesses.

The meeting terminated with a vote of thanks to the Chair.

(Signed) H. S. DICKINS,
Hony. Secy. & Chairman,

14-9-1920.

ANAMALLAI PLANTERS' ASSOCIATION.

Minutes of an Extraordinary General Meeting of the Anamallai Planters' Association, held at the Anamallai Club, on Monday, the 6th September, 1920, at 11-0. a. m.

PRESENT.—Messrs C. R. T. Congreve, (Chairman), D. Cooper, J. E. Carless, J. H. Ireland-Jones, F. Simmons, C. Fraser, E. Hardy, S. C. Biddell, C. K. Pittock, I Stewart, A. V. Danagher, S. Sladden, H. Stuart, W. Ogilvy, and J. E. Sampson, (Honorary Secretary).

By Proxy:—Messrs A. C. Cotton, T. W. Oliver, W. V. Reilly, and E. A. C. Dubois.

Visitor:—Mr. W. J. Campbell, (Messrs Pierce, Leslie & Co. Ltd).

MINUTES:—The following Minutes were taken as read, and confirmed:—

Minutes of the Extraordinary General Meeting, held on Thursday, the 8th July, 1920.

Minutes of the Extraordinary Meeting of the General Committee, held on Tuesday, the 3rd August, 1920.

ELECTION OF MEMBERS:—Proposed by Mr. Carless, and seconded by Mr. Biddell, that Mr. W. Ogilvy be elected a Member of this Association. Carried unanimously.

LOCAL LABOUR MATTERS.—Read Minutes of a Meeting of a Special Committee, held at the Club, on Friday, the 13th August, 1920, to decide points raised under the Local Labour Laws, between the Managers of Thoni Mudi and Murugalli Estates.

It is understood that this matter will shortly be satisfactorily closed.

At the request of Mr. Carless, the Honorary Secretary read No. 5 of the Local Labour Laws, passed on the 9th April, 1917.

CHATRAMS.—Read and recorded copy of letter from the Executive Engineer, Coimbatore Division, to the Manager, Paralai Estate, dated the 6th August, 1920.

The Honorary Secretary informed the Meeting that he had received a request from Mr. Haig, of the P. W. D., for the use of the two chatrams for a period of about three weeks, in order to solve the difficulty of housing a large number of extra coolies employed on the Ghaut Road.

The Honorary Secretary had complied with the request, and his action received the approval of the Meeting.

VISIT OF HIS EXCELLENCY THE GOVERNOR.—The Chairman read letter from the Private Secretary, dated the 24th August, 1920, and letter from the Military Secretary, dated the 31st August, 1920.

The following programme was decided upon:—

13th October,—His Excellency to arrive.

14th do —His Excellency to visit Kalianapandal and Murugall Estates, returning to the Club for official lunch. This lunch to be followed by a Meeting of the Association, and the presentation of a formal address.

15th October,—His Excellency to lunch at Mukottu Mudi.

16th do His Excellency departs.

All further details were left to the General Committee.

ARTICLES OF ASSOCIATION.—Read and recorded letter from the Secretary, U. P. A. S. I., No. 1274, of the 9th August, 1920.

REPORT OF DELEGATES TO BANGALORE MEETING.—Mr. Pittock read the Delegates' report.

Mr. Fraser proposed the adoption of the report, and that same shall not be published in the press, and moved a very cordial vote of thanks to the Delegates. Seconded by Mr. Jones, and carried unanimously.

Mr. Stuart, seconded by Mr. Jones, proposed that the Delegates be allowed Rs. 500 towards their expenses. Carried unanimously.

At the conclusion of the above report, Mr. Fraser proposed hearty congratulations to Mr. Congreve, on his election to the Chairmanship of the U. P. A. S. I. Carried with acclamation.

Mr. Congreve replied in a few well-chosen words.

In connection with the above report two matters were discussed at length, by the Meeting:—Legislation and Increase of Subscription to the Labour Department.

In connection with the former, it was proposed by Mr. Biddell, seconded by Mr. Hardy, and carried unanimously, that:—

"The Honorary Secretary be instructed to write to the Collector of Coimbatore for a ruling with regard to Act XII of 1920, with reference to the interpretation placed thereon by the Stationary Sub-Magistrate of Pollachi, with regard to the period of time in which warrants against defaulters may be issued."

The Honorary Secretary was instructed to give the Collector various suppositional cases of defaulting Maistries. With regard to the latter, it was proposed from the Chair that this Association's representatives on the U. P. A. S. I. General Committee be empowered to agree to such raising of subscription as may be considered necessary by that Committee. Carried unanimously.

CORRESPONDENCE.—*Ropeways.* Read letter from Mr. T. Nesbit.

Read letters to the Chairman, from Messrs. Gillanders, Arbuthnot & Co., dated the 28th July, and 28th August, 1920.

The matter was left to later discussion.

ROADS AND COMMUNICATIONS.—Read and recorded letter from the Joint Secretary to the Government of Madras, P. W. D. Buildings and Roads, No 659, D. dated the 30th August, 1920, *re* the Anamallai Ghaut Road.

Being asked by Mr. Fraser, the Honorary Secretary informed the Meeting that no reply had been received to his letter to the Chief Engineer, Cochin State, dated the 16th August, 1920. The Honorary Secretary was instructed to again approach Mr. Browning.

PLANTERS' BENEVOLENT FUND:—The Honorary Secretary informed the Meeting that he had read in the Year Book of the Ceylon Planters' Association, recently received, that Estates and Estate Agents subscribe largely to the Ceylon Planters' Benevolent Fund, and proposed the following resolution.—

"That this Association suggest to the U. P. A. S. I. the advisability of asking all Estates and Companies interested in Planting to become subscribers to, or Patrons of the Planters' Benevolent Fund, in the same manner as in force in Ceylon." This, on being seconded by Mr. Carless, was carried unanimously.

At this stage the Meeting adjourned for lunch

In the afternoon, a lengthy discussion took place with regard to communications.

At the request of Mr. Pittock, the Honorary Secretary read the resolution passed at the last Annual General Meeting, with regard to advertisements for consulting engineers to solve the present problem of a new exit from the District.

The Honorary Secretary was instructed to write to the Dewan of Cochin, asking his opinion with regard to the possibility of making a road from the Anamallais direct to Cochin Harbour.

With a vote of thanks to the Chair, the Meeting closed.

(Signed) C. R. T. CONGREVE, *Chairman*,
(„) J. E. SAMPSON, *Hony. Secy.*

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, on 31st August, 1920.

PROCEEDINGS.—The proceedings of the last meeting of the Committee on 17th August, 1920, were confirmed after previous approval in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON).—Letters dated 29th July and 5th August, 1920, from the Indian Tea Association (London) which had been circulated, were now to be recorded.

REGULATION OF SHIPMENTS OF TEA FROM INDIA.—In the proceedings of 17th August, 1920, members were advised of the cable communications which had been sent to the London Association, with reference to the latter's decision to withdraw the restriction scheme owing to lack of unanimity. The position created by this decision was again discussed, and it was agreed that nothing further could be done until replies to the above cables had been received from the London Association. Particulars of shipments to the United Kingdom ports, for the week ending 21st August, 1920, were also noted, and it was decided to await further advices from the London Association in the matter.

COMPLAINTS REGARDING TEA SHIPMENTS FROM CALCUTTA.— As arranged in their meeting on 3rd August, 1920, the Committee furnished the Calcutta Ports Commissioners, and the Inland Steamer Companies, with particulars which had been received of mistakes made in connection with teas shipped from Calcutta. As a particular case in point, it was explained that against an invoice of Pekoe Souchong tea from a member's garden, a landing account had been received in London showing that four chests of Pekoe Souchong had been short received, and four chests of different qualities delivered instead. It had been suggested that this error might be due to the congestion in the tea transit sheds and the tea warehouses, and the Committee directed the attention of the Port Commissioners, and the Inland Steamer Companies, to this matter, in order to avoid a recurrence of such mistake. Replies, dated 14th and 24th August from the Inland Steamer Companies and the Traffic Manager, Calcutta Port Commissioners, respectively, were now considered. In their reply, the Inland Steamer Companies gave particulars of their system of checking, and concluded with the suggestion that there must have been some mistake in stacking the different lots at the London wharves. The Traffic Manager, Calcutta Port Commissioners, advised that suitable steps had been taken to remove, as far as possible, the risk of further mistakes, and he enquired whether any further errors had been reported to the Committee.

Although additional instances were available, the Committee did not consider it necessary to supply these, as their object in drawing the attention of the Steamer Companies, and the Port Commissioners, to these mistakes, had already been achieved. It was now decided to forward copies of these replies to the member who raised the question, and thereafter to record the correspondence.

INTERNATIONAL LABOUR CONFERENCE AT WASHINGTON.—There had been submitted to the Committee, for their information and approval, draft of a reply which the Bengal Chamber of Commerce proposed to send to the

Government of Bengal in connection with that Government's request for the views of the Chamber Committee on matters dealt with in a letter No. 1-812, dated 11th May, 1920, and enclosures from the Board of Industries and Munitions, regarding the draft conventions and recommendations adopted by the International Labour Conference at Washington. Although these conventions and recommendations were only applicable to labour coming within the scope of the Indian Factories Act, and the Indian Mines Act, and were therefore not applicable to tea garden labour, the question had been raised as to whether the definition of "factory" should be amended, and it was noted with satisfaction that the Chamber Committee were of the opinion that the definition should not be amended in any way. It was decided to thank the Chamber for this reference, to convey the Committee's approval to the draft reply, and to express a hope, should any endeavours, similar to those referred to in the last proceedings, be made to bring tea and other excluded factories within the operation of the Factories Act, that the Association might count on the support of the Chamber to representations against the introduction of such legislation. As it was understood that it was the Chamber Committee's intention to circularise members of the Chamber with copies of this reply when issued, the Secretary was instructed to arrange for copies of the circular to be forwarded to the Branches and local Associations of Southern India, for their information.

CALCUTTA SCHOOL OF TROPICAL MEDICINE.—As arranged at their meeting on 6th July, 1920, the Committee had forwarded to the Branches and local Associations copy of a letter which had been received from the Honorary Secretary, Calcutta School of Tropical Medicine, asking, among other matters, for an expression of opinion from the Association as to the special line of investigation which should be taken up in connection with the research post endowed by the Association. In connection with this reference, it was suggested to the Branches and local Associations, that the opinions of medical officers employed on tea gardens should be ascertained and reported to the Committee. In the meeting under record, replies from the Dooars and Darjeeling Planters' Associations, and the Surma Valley Branch, were noted, and it was decided to await replies from the Terai Planters' Association, and the Assam Branch, before giving the matter further consideration.

LOCAL CLEARING OFFICE FOR INDIA FOR THE SETTLEMENT OF ENEMY DEBTS.—The Committee have received from the Controller, Local Clearing Office (Enemy Debts), a notice regarding the procedure of this Local Clearing Office which has been established in Calcutta, with a request that the contents of the notice might be given as wide publicity as possible. The notice in question has already appeared in the newspapers, but any members who may wish to see it may inspect the Committee's copy by application to the Secretary.

INDIAN LABOUR IN THE F. M. S.

(Continued)

The Committee believe that too little is known of the customs, religions, castes, and prejudices of Indians, and that our knowledge would be improved by the appointment of an Agent, to be styled "the Indian Agent" or "Indian Political Agent", a Class II (or higher class) Civil Servant, who would reside in India and whose sole duties would be to study India and Indians, for the benefit of employers of Indian labour in Malaya.

As an instance of the lack of the knowledge referred to in the preceding paragraph, it is pointed out that estate temples for Indians (which are usually not so elaborate or well built as in India) are often erected by Chinese contractors, and that in consequence such temples are not appreci-

ated, nor have they the same value in the labourers' eyes that they would if they had been constructed after consultation with and upon lines agreed to by labourers themselves. Decisions relating to such and similar matters might, with advantage, be referred to a Committee (punjayat) of kanganies and others appointed by the labourers themselves.

The Committee recommend that every encouragement be given to labourers in the exercise of any of their customary ceremonial rites.

PROPAGANDA IN INDIA.

The Committee endorse the Controller of Labour's views that "Propaganda (in India) will have to be by our own good deeds, and by letting the labourers themselves go back to India with a good account of things," and do not think it is advisable to engage in propaganda other than the advertisements descriptive of the conditions of labour in Malaya, which are maintained in four Vernacular newspapers by the Straits Emigration Agent in India.

The Committee recommend to employers the valuable suggestion made by the Controller of Labour, that every estate should employ one or more men whose sole duty would be to write letters for the labourers employed on that estate. The estate should provide all the necessary writing materials, such as note-paper with the name and address of the estate printed in English and in the Vernacular, and pay all postages, and should have printed, for enclosing with such letters, handbills, leaflets or small pamphlets in Tamil (or other Indian language) with particulars about the estate. Such literature might, with advantage, be illustrated with pictures of estate buildings such as the lines, temple, shop, etc., and group photographs of labourers.

The Committee consider that labourers should be encouraged to write letters to their relatives in India, as complaints are frequently made in villages that no letters are received from labourers once they go to Malaya.

The Committee strongly support the Controller of Labour in his remarks as to the desirability of European managers and assistants acquiring an adequate knowledge of the languages of Indian labourers, so as to enable them to converse freely, deal with and arbitrate, without intermediaries, in the differences which frequently arise between such labourers, their kanganies and others; and they accept his assurance "that most of the complaints received by the Labour Department arise solely from misunderstandings which would not have been possible had the manager and the cooly been able to understand one another."

The Committee recommend that Agency Houses should give explicit instructions to members of their estates staffs that they are required to make themselves thoroughly proficient in one or more Indian languages; and while they recognise that a proper knowledge of the language of labourers is an essential qualification of planters, and that failure to acquire this qualification within reasonable time constitutes ground for considering whether a planter is competent to continue in his appointment, they recommend that every opportunity, facility and encouragement be given to European managers and assistants to learn the languages of their labourers. They are of opinion that, in the case of young men, substantial bonuses should be offered by employers for proficiency during, say, the first two years of their employment in Malaya. In the cases of managers and senior assistants, the knowledge of at least one Indian language should be a necessary qualification for positions involving the control and care of an Indian labour force: and the Committee suggest that men so qualified should be given preference by Directors, Secretaries and Agents of estates, who are recommended to take advantage of the Languages Examinations Scheme of the Incorporated Society of Planters, which has the approbation of the Controller of Labour and of the Committee.

The Committee, being desirous of submitting their Report with the least possible delay, had less time than they should have liked for the collection of information bearing on some of the subjects under review.

In particular, they found some difficulty in arriving at conclusions in respect of the conditions obtaining in India itself, with regard to the class of labourers which might be expected to emigrate to Malaya for their own betterment.

The information before the Committee serves to show :—

(1) That, until recently, steady employment in India was not available for such labourers; that there were recurring seasons when work was almost unobtainable at even low wages, and that during such seasons labourers were attracted to Malaya in large numbers.

(2) That wages generally have risen in India during the past 2 years, and that, while the average wages earned there are still considerably less than can be earned here, the difference is becoming less marked, and, the trend of remuneration in India being still upward. the attractions which this country at one time offered are becoming less year by year.

(3) That conditions in India are rapidly changing. New industries and enterprises are springing up almost daily, creating a demand for labour hitherto unprecedented, and, as a consequence, labourers are being enabled to earn much higher wages than formerly. It follows, therefore. that if we are to place ourselves in a position to induce labourers to come to Malaya, we must offer better terms than in the past.

The Committee realise that, in certain districts in Malaya, sufficient Indian labourers can be procured and maintained on rates of wages much below those which are recommended herein. They are also aware that much higher rates are paid in some districts. These facts merely serve to demonstrate the diversity of conditions obtaining; and the Committee strongly urge that no employer should offer such terms to labourers engaged locally as would be likely to attract or entice labourers who have been brought into the country by other employers. The Committee, while they consider wages an important factor in attracting labourers from India, do not suggest that wage increase will in itself ensure a plentiful supply; and, in closing this Report, would again urge upon all employers the absolute necessity both for individual and collective effort in attracting labourers by the methods suggested herein.

In development, Malaya is yet but young. Our industries, although large, are few in number. Others will arise as time goes on; the demand for labourers will increase year by year; and it should hardly be necessary again to point out that, unless most strenuous efforts are made by all having a stake in the country to increase the supply of labour, not only will our present staple industries be jeopardised and the prosperity of the country totally impaired; but the natural expansion of which the country is capable will be retarded, to the detriment of Malaya itself, and to the Empire of which we form an integral part.

The Committee advise that the Recommendations contained herein be given effect to and become operative on October 1st, 1920.

(Concluded.)

THE BOOK OF PROCEEDINGS.

Just as we go to Press we hear from Mr. Waddington that he has been able, after all, to include the photograph of the delegates in the Book of Proceedings. The book will be ready during the coming week, and may be obtained from the Secretary, U. P. A. S. I., Coimbatore. Price Rs. 2/8 per copy, Post free.

ON GERMINATION.

In a large number of seeds commonly grown by the gardener, germination is such a certain and rapid process that it is taken as a matter of course and excites no feeling of wonder. A little moisture, a moderate temperature, and some small supply of air are the only conditions necessary to quicken an ordinary seed. Yet, as those who have wider experience know, there are many kinds of seeds which show capriciousness and obduracy when planted, and the causes of that capriciousness are by no means always easy to understand. In some cases difficulty of germination, as in "hard" Leguminous seeds, is associated with a hard coat which it is necessary to scratch or file in order to induce the seed within to germinate. The seeds of some kinds of plants, for instance, Auriculas, may germinate at once if sown before they are ripened, but germinate badly or slowly if sown after they are thoroughly ripe. On the other hand, gardeners often claim to prefer old seeds of Melons, though whether because old seeds germinate better or produce better plants than young seeds we do not know. To use old seed of some plants scarcely matters—Legumes, as a class, generally produce seeds which retain their germinative powers unimpaired for many years, and it is the seed of Legumes which hold the record for the longest latent longevity —some eighty years or more. Of course there is the ever-recurring claim of mummy wheat to be capable of sprouting after thousands of years spent in mummy cases; but, though the claim is undying, the mummy wheat died long ago, and no serious record is known to us of the seed of a plant having survived a hundred years. It may be that, in the earth, seeds do retain their vitality for very long periods. The Fox-gloves and other flowering plants which spring up when coppices are cut are sometimes cited as examples. Nor is it impossible that the seeds of these plants have lain dormant in the soil for many years. For it is known that dormancy is often brought about in a seed automatically, as it were by the accumulation of carbon-dioxide in its outer tissues. When these tissues are charged with carbon-dioxide they become very impermeable to the ingress of oxygen and water, and in that state they may lie dormant for a long time. Yet when the carbon-dioxide is removed the seeds begin to grow again; the carbon-dioxide acting like the crust of the pie in which the birds were baked, and only when the pie was opened did the birds begin to sing. Some have endeavoured to show that the germination of a seed or the sprouting of a potato is due to the formation and action of enzymes; and that one of these, a diastase, sets the magic work going by changing starch, which is a solid, and so useless as such for food purposes, into sugars, which are soluble and of immediate use as foods. It is claimed, for instance, that old seeds—for example, those of tomatos—which are refractory to germination may be quickened by soaking in solutions of diastase or other enzymes. But the expert seed raiser knows that there are many other substances which may be used successfully to overcome the refractoriness of seeds. MR. GROVE, we believe, has used potassium iodide solution of iodine with success in the case of certain Lily seeds, and others find hydrogen peroxide a good stimulant for sluggish seeds. Freezing and thawing are often resorted to, and not without success, as for example with certain Primulas. Hence it would seem probable that the diastases or other enzymes are not the agents which wake up the seed. Yet possibly they do play a part—albeit indirect; for it has been shown recently that an enzyme such as diastase does not work single-handed very well, but requires a co-enzyme—a sort of partner—to stir it up to activity, and it may be that the germinative process, after a period of rest, is brought about by the formation in the protoplasm of the plant of this activating co-enzyme. Even so, however, it remains to ask what causes it to form. To that question we know at present no answer.—*Gardeners' Chronicle*, Vol. LXVII, No. 1745.

NOTES AND NEWS.

Burma.

We usually find space for more lengthy comment on the Report of the Agricultural Department, Burma, but must be content this year to note the decrease in the paddy crop. The area under rice for the year ending 30th June, 1920 was 10,479,844 acres, which gave a crop of 5,454,118 tons of unhusked paddy. In the previous year the crop obtained was 5,920,157 tons so that the decrease amounts to 466,039 tons, and this is said to be due to the reduction in the estimated yield per acre.

The Book of Proceedings.

Mr. Waddington in this issue, pays a timely tribute to Mr. Hayles, who reported the Annual Meeting recently, and to the Compositors of the *Madras Times*, who have worked so willingly to get the Book of Proceedings out in record time. The group photo was unfortunately too late for inclusion. We have seen a copy, however, and must say it is a fine piece of work, worthy of the best traditions of the firm who carried it out. Will delegates and others requiring copies of the photograph send direct to Messrs. Barton & Co., Bangalore?

The Royal Air Force Memorial.

The First Assistant Resident in Mysore draws the attention of the Secretary, U. P. A. S. I. to this Memorial Fund. We have received a neatly got up folder comprising a statement of the objects of the Fund and containing short accounts of various stirring deeds by Members of the Royal Air Force, including the destruction of a Zeppelin by the late Capt. Leefe Robinson, V. C. at Cuffley in September, 1916. We need hardly say that we heartily endorse the appeal, and trust that it may quickly lead to the attainment of the Committee's main object "to commemorate the services of the Royal Naval Air Service, Royal Flying Corps, the Australian Flying Corps and the Royal Air Force, during the war, by an organisation which will secure such lasting benefits to the officers and men of the Royal Air Force and their dependents as may be worthy of the greatness of the achievements commemorated."

The U. P. A. S. I. Gazette.

We have received a suggestion from a member of the Executive Committee to the effect that we might publish, from time to time, the names of the Honorary Secretaries of District Planters' Associations. This, we have had in mind for some time, and propose including considerable further information, since it is rather remarkable to what an extent mistakes are made by Planters and others in addressing correspondence. These wrongly addressed letters seem invariably to find their way to the U. P. A. S. I, Office, Coimbatore, and we hope, therefore, that the institution of the "U, P. A. S. I. Gazette," beginning in this issue, will be the means of avoiding the considerable waste of time at present involved.

The Mercantile Bank of India, Ltd.

We are informed that the Directors of the Mercantile Bank of India Ltd., have declared an Interim Dividend of 8% per annum, less tax, payable 24th September, 1920.

Tuticorin Exports.

The Chamber of Commerce returns for the month of August show the following exports of S. Indian produce from Tuticorin :—

	To Ceylon.	To United Kingdom.
Tea	... 183,203 lbs.	2,280.836 lbs.
Coffee	... 6,422 cwts.	Nil.
Rubber	... 68,274 lbs.	175.559 lbs.
Cardamoms	... ...	5,265 lbs.
Cinchona Bark	... ...	13,352 lbs.
Pepper	... 31 cwts.	...

Indian Trade in East Africa.

The following Press *Communique* is issued :—

The approval of His Majesty's Government has been received to the proposal of the Government of India for the appointment of a Trade Commissioner to represent the interests of Indian trade in East Africa. The duties of this officer, like those of the Trade Commissioner who has already been appointed in London, will be chiefly connected with the assistance of the Indian export trade. They will be in no way political, except in so far as political questions affect purely trade interests. The sphere of activity of the appointment will not be confined to Kenia Colony, but will also extend over Uganda, the British mandatory sphere in ex-German East Africa, and possibly Zanzibar also. The selection of a suitable officer for appointment to the post in now being considered by the Government of India.

INDIAN AUXILIARY FORCE.

COMMISSIONS FOR OFFICERS.

SIMLA, 14th Sept.—A special Indian Army Order, which is shortly to be published, states, that in the event of the Auxiliary Forces Bill becoming law, it will be necessary for all officers of the Indian Defence Force to relinquish their present commissions, whilst those officers who are to be retained in the new Auxiliary Force will receive fresh commissions, applications for which have already been invited. The order, further states that in anticipation of the abolition of the Indian Defence Force, Officers Commanding Units of that Force are requested to submit to the Military Secretary to the Commander-in-Chief, at an early date, nominal rolls of officers with recommendations for retention of ranks on relinquishment of Indian Defence Force commissions, to enable the necessary " Gazette " notification to be published in due course.—*Association Press.*

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

Madras,
7th September, 1920.

The Editor,
" Planters' Chronicle,"
Coimbatore.

The Book of Proceedings.

My dear Vincent,—On arriving here yesterday morning, I found the whole of the Proceedings of the Meeting at Bangalore set up in type, and ready to go to the press. A most creditable performance on the part of our Reporter, Mr. Hayles, and the Compositors of the " Madras Times,"

I finished proof reading, and completed the index this afternoon, and although I have heard nothing of the group photo, I cannot delay issue of the Book for that, so it has gone to press, and should be ready for circulation next week

The necessity of my going on to Cochin this evening will unfortunately delay somewhat the report of the meeting held to discuss Labour matters, but that also is set up, and I hope to complete it very shortly after returning here next Monday.

Yours sincerely,

H. WADDINGTON.

Holalu,
Belagodu, 5—9—20.

Increasing the Labour Force.

Dear Sir,—With reference to Mr. Martin's letter on "Increasing the labour force" in your issue of 28–8–20:—

May I express my feeling against "The Planters' Chronicle" being used as a vehicle for such expressions of d sapproval as "crass stupidity, dense ignorance, or a clumsy attempt at a leg-pull?"

On re-reading the whole correspondence more than once, my first impression remains that XXX's letter is unobjectionable. It is not reverent, of course, but surely that should not be sufficient to call forth such Olympian thunders.

It is true that XXX's first question can be distorted to bear the meaning that Mr. Martin elects to put upon it, but, the author's meaning is clear enough: and he might well retort in the same terms regarding Mr. Martin's information about finding statistics in Berne.

Similarly, I do not see that XXX's question should be read as a "base insinuation against" Mr. Martin's apothecary.

In any case it would be a sorry business if correspondence in "The Planters' Chronicle" should take, however infrequently, the tone of the letter complained of.

Yours faithfully,
(Signed) A. L. HILL.

[NOTE BY ED.—*P. C.* We agree; and this correspondence will now cease.]

Periyar Estate,
Thattakaad, 10th September, 1920.

The New Auxiliary Force.

Dear Sir,—I read with interest Mr. G. W. Fulcher's letter *re.* New Auxiliary Force, and fully agree with him in asking for more definite information. Tho' some of his hopes are rather for the Millenium!

I would like to make his para 2 (*b*) more general, and for "I. A. R. O." I would substitute "British Army," "British" of course referring to the Empire. I would also ask whether an ex-soldier, commissioned or otherwise, if he joined a local unit would be officered and N. C. O'd by men who, for some good reason or for no reason, have not seen active service during the "Great War."

Yours faithfully,
(Sd.) R. PANTON WELLS,
Late Major, R.F.A.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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LABOUR IN THE TINNEVELLY DISTRICT.

The Tinnevelly District of South India has long been a happy hunting ground for the planters of this country and of Ceylon, who have no doubt been attracted mainly by the class of cooly resident in this district, the physical standard of the population being, as a rule, higher than that of many others in the Presidency, although in numbers, of less importance than the more thickly populated districts, for instance, Coimbatore, Erode, Trichinopoly, etc.

Of recent years, however, there has been a distinct falling off both in numbers and in the physical standard of coolies recruited from the Tinnevelly side for South Indian Estates, and it is of some importance and of great interest to know why our Kanganies have been unable to ma ntain the efficiency which characterised their gangs in the past.

The older school of planters is apt to complain in matters of labour recruiting, without taking into consideration the altered conditions in the cooly's own country. We have seen, recently, how thoroughly the F. M. S. planters have gone into the question of the standard of living in South India, and we do not doubt that it is, in great measure, this lack of local knowledge of conditions in the low country which has been the cause of many up-country planters losing treasured connections upon which they

had, for some years, blindly relied. As time went on and these gangs dwindled, the remedy often applied was to increase advances, a fatal mistake leading invariably to final submergence of the gang under a flood of debt, although, to change the metaphor, the advances may have acted at the time like the lash of the whip to a tired horse, and have thus given a false perspective of the benefits accruing from this form of treatment.

What has actually been happening in the Tinnevelly district is, the sharing in the generally increased prosperity of the country and the education of the ryots to improved methods of cultivation and irrigation, leading to an extension of land under cultivation, an increased demand for labour, and, above all, the extension of the cultivation of crops other than food stuffs, paying crops, permitting the payment of increased wages. This has been particularly noticeable in the Coimbatore district, which we hope to deal with in another article, and in the Tinnevelly District, to a certain extent, as will be seen. Apart from this, there is the fact that the demand for labour has tremendously increased in those directions which have hitherto been considered as occupying the maximum space and employing the maximum of labour in the staple crops of the presidency—Grains. For example, Punja, or dry land, is rapidly being converted into Nanja, or wet land cultivation by means of irrigation wherever it is possible, with a consequent increase of 300 or 400% in yield. It is obvious that this means more labour and better pay, so that the previous estate wage of 6 annas for men and 4 annas for women no longer attracts labour which can earn the same pay in its own districts. We have far too long based our views on the assumption that it was only in crop time that coolies in their own homes could earn more money than on the estates. In the area under review, the ordinary pay for women and men is 4 annas and 6 annas, respectively, or its equivalent in kind, and in the crop season men and women can earn 12 annas and 8 annas per diem, respectively, without difficulty.

This means keen competition for labour between the estates and the local land-owner, and this has been aggravated by the entrance into this field of outside recruiters, like Ceylon, tending materially to increase the difficulties of everyone interested. It follows that the local land-owner has the pull so long as high prices and good crops permit him to pay such high wages, and it is not easy to see how conditions may change for the better in the near future.

We have referred to the extension of the cultivation of crops other than food stuffs, and in the Tinnevelly District we have a concrete example in the case of Senna cultivation. This has for years been present of course, but until quite recently was entirely in the hands of the ryot, and was conducted on a comparatively small scale. An European Company have now taken up this industry, and, by importing the Egyptian variety, have increased the yield of Senna by 100% over the yield of leaf gained from the indigenous plant, to which also it is superior in quality. To judge from recent developments of this Company, they apparently intend to increase their holdings considerably. Three European Assistants have been engaged, and the transport of the leaf to railhead is done by Motor Lorries, which are the property of the Company. One of these estates near Tinnevelly employs as many as 1,300 coolies daily. The work is very similar to that on a Tea Estate; there is the ordinary weeding and plucking, or "stripping." The coolies are paid from 4 to 5 annas for women, and from 6 to 8 annas for men. The cooly receives his wages daily, which is paid in cash by an European Assistant, and the hours of work are from 10 a. m. to 4-30 p. m.

We need not mention the competition by the Ceylon Planters, well known to us all, but we have it on very good authority that a new departure by the Ceylon Government is the recruitment of labour in this district for the Ceylon Salt Department. This Department, we are informed, are prepared to pay 10 annas per day per cooly (men), 7½ bushels of rice free are given to every 10 coolies (men or women) per month, and, of course free passages to Ceylon and back, with all expenses found.

The Trichandur and Srivaikuntam Taluks do not supply much labour to estates. In Srivaikuntam Taluk most of the land belongs to wealthy land-owners, who lease their properties out for certain periods. The leaseholder is able to make a good profit out of his bargain, permitting him to pay wages sufficient to keep his labour in the low country throughout the year. In the Trichandur Taluk, Messrs. Parry & Co. have the monopoly of the Nadar labour for their sugar industry. The labour is not directly employed by the firm, but can earn high wages as Palmyra tappers. In the same company's sugar factory at Kulasekarapatnam there have been, for several years now, some 500 or 600 coolies of the criminal tribes employed, and this labour seems to have proved eminently satisfactory.

Such, briefly, are the conditions obtaining in the Tinnevelly District, from which we have to exempt the Sankaranarayancoil and Koilpatti Taluks, not included in the investigation. They show how necessary it is for planters to be in a position to judge and compare the standard of living in certain parts of the low country with that obtaining on estates, and the competition with which employers of labour are faced. They give some insight into the reasons for the shortage of labour from that side this year, and, above all, they are convincing proof of the old French proverb, showing as they do how difficult is the art which is so easily criticised.

THE U. P. A. S. I. GAZETTE.

(Continued)

Mundakayam Planters' Association.—Mr. T. W. H. Fitchett, Kadamankulam Estate, Mundakayam P. O., has been elected Chairman of the Mundakayam P. A. in succession to Mr. J. J. Murphy, who proceeds on a visit home early next month.

THE GENERAL COMMITTEE, U. P. A. S. I.

The U. P. A. S. I., General Committee, is made up of two representatives nominated by each of the affiliated District Associations, together with the Members of the Executive Committee, exclusive of the Members in waiting.

The nominated representatives of District Associations are at present :—

1. Anamallai Planters' Association,
   1. C. K. Pittock, Selaliparai, Valparai P. O.
   2. J. Carless, Mukottumudi, Mudis P. O.
      Via Pollachi.

2. Bababudin Planters' Association.
   1. N. G. B. Kirwan, Arabidacool, Chickmagalur P. O.
   2. S. P. Dennis, Siddabile, Santaveri P. O.
   Kadur District.
3. Central Travancore Planters' Association.
   1. J. S. Wilkie, Glenmary, Peermade P. O.
   2. E. C. Sylvester, Vandiperiyar P. O.
   Travancore.
4. Coorg Planters' Association.
   1. A. J. Wright, Karie Kollie, Mercara P. O.
   2. P. G. Tipping, Fairlands, Siddapur P. O.
   Coorg.
5. Kanan Devan Planters' Association.
   1. W. A. Lee, Munnar P. O.
   2. G. R. Strachan, Letchmi, Munnar P. O.
   Via Periyakulam.
6. Mundakayam Planters' Association.
   1. J. R. Vincent, Kutikul, Mundakayam P. O.
   2. G. McPherson, Mundakayam Est., P. O.
   Travancore.
7. Nilgiri Planters' Association.
   1. A. K. Weld-Downing, Frith Hall, Hulical P. O.
   2. J. B. Vernede, Rookery, Kil-Kotagiri P. O.
   Nilgiris.
8. Nilgiri-Wynaad Planters' Association.
   1. J. S. Nicolls, Daverashola, Devarashola P. O.
   2. J. Aird, Glenvans, Glenvans P. O.
   Nilgiris.
9. North Mysore Planters' Association.
   1. C. H. Browne, Kerkie Coondah, Sallebile P. O.
   2. W. H. Reed, Mavinkere, Kalasa P. O.
   Kadur District.
10. Shevaroy Planters' Association.
   1. ... ...
   2. ... ...

11. South Mysore Planters' Association.
   1. Lt.-Col. W. L. Crawford, Ossoor, Hassan P. O.
   2. ... ...
   Mysore State.

12. South Travancore Planters' Association.
   1. J. B. Cook, Corrimony, Ashamboo P. O.
   2. E. Lord, Quilon P. O.
   Travancore.
13. West Coast Planters' Association.
   1. A. H. Meed, Palapilly P. O., Cochin State.
   2. A. C. Morrell, Kaliyar, Thodupusha P. O.
   Travancore.
14. Wynaad Planters' Association.
   1. E. E. Kyre, Arrapetta, Meppadi P. O.
   2. J. A. Gwynne, Chundale, Vaythri P. O.
   Malabar.

Will Honorary Secretaries kindly notify the Secretary, U. P. A. S. I., of any changes in the above list?

EXPERIMENTAL WORK IN ASSAM.

We have received a copy of the Report of the Agricultural Experiments and Demonstration in Assam for the year ending 31st March, 1920, which provides excellent reading and food for thought, particularly in view of the speech by Dr. Coleman at the last U. P. A. S. I. Meeting. In the course of his lecture, Dr. Coleman made some interesting remarks regarding the action of lime in the soil, and briefly came to the conclusion that many of the Coffee Planters' troubles, such as Root Rot, would vanish if lime were used on a larger scale. He did not believe that anything less than 2 tons an acre is worth much, and, in reply to Mr. Congreve as to how often lime at this rate should be put on the ground, he said about once in five years, qualifying this as not being a scientific statement.

At the Jorhat Experimental Station, some experiments in the use of lime have been in progress now for a sufficient number of years for the results to be of use in studying the action of lime in the soil. Quoting, now, from the report, the work includes :—

Block G—Liming experiment commenced in 1909.

„ C—Liming and manurial experiment ; also an experiment in the use of wood ashes, as a soil ameliorant ; both commenced in 1911.

„ K—Experiments to elucidate the function of lime on our sour old red alluvial soil, and to test the action of various manures and mixtures thereof, with and without lime, commenced in 1912.

„ L—Ground limestone experiment, commenced 1913, to test the effect of incorporating lime with the soil to varying depths.

In the first experiment Block G, one half of the Block, was limed 11 years ago (1909), and both sections have been regularly and similarly cropped since, to see how long the effect of the single application of lime will last. The results this year show the lime effect clearly marked, although 11 years have elapsed since its application, but it appears to be sensibly diminishing.

The Experiment in Block C had, for its chief object, to discover whether lime is best applied in large occasional doses or in more frequent smaller dressings. During the first six years of the experiment, each of the limed sections received a total of 2 tons of slacked lime per acre either, (a) as one initial application of 2 tons, or (b) as two equal triennal dressings of 1 ton each, or (c) in six equal annual doses of ⅓ ton each. Since 1917, i.e., at the expiry of the six years, the experiment has been continued without further use of lime, for residual effect. Briefly, it may be said that during the first few years of the experiment the larger and less frequent lime applications returned the biggest crops. By about the 5th year the smaller, more frequent dressings were returning larger yields. Thus the evidence is in this, the ninth year, again in favour of the smaller, more frequent dressings, and this has been the experience from the fifth year of the experiment to date.

Coming now to Blocks L and K, we will quote *in extenso* from the report.

Block L.—Ground limestone experiments—commenced in 1913 on very infertile, newly broken up land, this experiment was continued in its 7th year. The scheme consists of 6 plots, each ⅓ acre, in two series of 3 plots each. The first series, Section A, is cultivated shallow (3-4 inches) with country implements ; while Section B, is worked deeper (7-8 inches)

with English implements. This ensures a deeper application of the limestone on Section B, the chief objects being to elucidate the effects of incorporating lime with the soil to different depths, and to test the value of deep *versus* shallow cultivation.

The first application of ground limestone was made in 1913, and repeated in 1919, as follows :—

Sections A and B { Plot 1—15 maunds limestone per acre.
„ 2—Nil.
„ 3—30 maunds limestone per acre.

For further details and previous cropping results, past reports may be consulted.

The cropping this year was cowpea green-manure in the rains, followed by oats in the cold weather. Cowpeas were sown on 9th May, and ploughed in 12th August. At the time of ploughing in there was little to choose between the crop on all the limed plots ; they appeared all equally good. The crop on the unlimed plot of Section B, was nearly as good as that on the limed plots, but that on the unlimed plot of Section A was a very inferior crop.

Oats germinated well, but died off on the unlimed plots completely. Again, as in previous years, the limed plots of the shallow cultivated Section A led the corresponding plots of Section B from the start. The crops on Section A were darker in colour, stronger and finished up better. Unfortunately, the exceptional rain in February and March not only delayed ripening, but battered the crop so badly that the greater portion of the grain was shed on the plots.

The crops were thus not worth weighing ; the results would have been valueless and not comparative. From field observations, I place the relative order as follows :—

Section A—Plot 3—First.
„ B— „ 3—Second.
„ A— „ 1—Third.
„ B— „ 1—Fourth.

Taking the results of this experiment to date, the evidence is overwhelming that for most ordinary farm crops, be they deep or shallow rooted, it pays not to incorporate the lime too deeply, at any rate on our soil.

Again, the cowpea crop, which is so far the only one to make any crop on the unlimed plots, undoubtedly pays, in the absence of lime, for deeper cultivation.

The resistance of crops to soil acidity in the seedling stage appears to be a much more potent factor in deciding whether a lime application shall be applied deep or shallow than rooting habit.

15 Block K—Experiment to study the functions of lime.—This experiment was started in 1912, the present being its 8th year. It was originally laid down to study the early function of lime on our sour soil, and the earlier results described in Memoir No. 9, Volume III, Chemical series of the memoirs of the Department of Agriculture in India, entitled "Studies of an acid soil in Assam," have subsequently been confirmed, year by year. This year the various plots were again manured with their respective artificial manures and mixtures thereof, both on the limed and unlimed sections.

The limed sections were given a dressing of ground limestone at the rate of 30 maunds per acre, having had no lime since 1912.

Cowpeas were taken at the rains crop, followed by oats in the cold weather. The general indications given by these two crops are qualitatively the same in regard to the value of the various basic and other manures used; however, in the cold weather lime and the various basic manures show up to much more effect on the oats, while in the rains the effect of phosphatic manures appears to greater advantage on the cowpeas. The results, which continue to come out strongly year by year, are the positive value of basic manures, *e.g.*, lime, etc., followed by the beneficial effect of phosphoric acid, more particularly in its basic forms; the harmful effect of the continued use of sulphate of ammonia without lime, and the failure of certain artificial manures, *e. g.*, the commercial nitrates and potash salts and superphosphates, applied singly or in mixtures year by year, to produce a cold weather crop of oats in the absence of lime on our soils.

With lapse of time, those plots which get heavy dressings of cowdung, but no lime, are producing heavier and heavier crops, though, when the land was first broken up, this was not the case. Thus, continued cultivation, and the use of organic manures would seem to have a great ameliorating effect on the sour soils, even in the absence of lime.

As between the various forms of lime, ground limestone continues to prove itself very effective; if ground very fine it is apparently almost as quick in action as slacked lime; it is slower in action but more lasting if applied somewhat coarser. That the effect of lime on these soils is not due to any special demand of the crops for lime as a plant food continues to be clear, in that the same effect is still produced by other bases, *e.g.*, the carbonates of soda, potash and magnesia, etc, and the fact that lime applied as gypsum, *i. e.*, sulphate of lime, even in very large doses has no effect on crop production, even now.

THE TEA AND RUBBER CRISIS.

Decisions of very considerable importance to the tea and rubber industries of Ceylon were arrived at yesterday, says the "Ceylon Times," at the Conference of representative producers, including members of the L. C. P. A., which was held at the invitation of the Chairman of the Chamber of Commerce, Mr. Jas. Lochore. The chair was taken by Mr. Lochore, and the present crisis which has arisen in connection with the two staple industries of the Colony was d scussed at length, and recent telegrams received from the Ceylon Association in London, in which definite action was suggested, were considered.

The Tea Position.

The following letter from the Ceylon Association in London to the "Ceylon Chamber of Commerce," dated September the 8th, and received on September 11th, was read:—

"Council recommends that, in view of present prices of Ceylon tea in London, all proprietors should take steps at once to reduce production. If you are in agreement, kindly take immediate steps to make same operative. Please advise Planters' Association and Estate Agents' Association accordingly. Also, as Indian Association agrees to reduction of shipments to 5 per cent. monthly for October, November, December, recommend reduction from Ceylon to 6 per cent. monthly of total annual crops for same period."

RESTRICTION OF SHIPMENTS NEITHER "FEASIBLE NOR DESIRABLE."

After discussion, it was decided to telegraph to the Ceylon Association that restriction of shipments for the remainder of this year was neither feasible nor desirable, but that Ceylon producers would be willing to restrict the tea output for 1921, provided India agreed to do the same The extent to which, output should be restricted was left for future consideration.

It was considered that by restricting output the chances of reviving the market were greater, and it was pointed out that the restriction of shipments would not necessarily relieve the situation, because it would not, with any degree of certainty, limit the output of estates. The fear was expressed that estates would continue to produce as much tea as formerly, with a result that this surplus tea would come into the market the following year.

The Conference considered that, owing to finer plucking and bad climatic conditions, there was no possibility of Ceylon shipments to the United Kingdom for the remainder of the year reaching even 6 per cent. monthly of the total annual crop, *i. e.*, approximately 12,000,000 lbs. per month. The means whereby the suggested restriction of output next year was to be brought about was not gone into, the general opinion being that this was entirely a question for the individual estates to decide. Reduced output might be attained by cancelling manuring programmes, restoring to more systematic finer plucking by still more stringent pruning, by giving a proportion of bushes a complete rest for a year, or possibly two years, or by a combination of two or more of these methods.

THE RUBBER POSITION.

As regards the rubber position, the Conference considered the latest cable received from the Ceylon Association in London the full text of which has already appeared in these columns. This cable announced that it is estimated that, apart from increased stocks in consuming countries and large quantities afloat, there will be an unabsorbed surplus exceeding 34,000 tons of rubber on December 31st, 1920, and that a still worse position is feared for 1921, if nothing is done to meet the situation. The Association in London, the cable continued, considered the position grave and one which called for immediate action. They therefore suggested that the estimated normal output for the last quarter of 1920 should be reduced by 25 per cent., and that, for 1921, a 20 per cent. reduction from normal should be effected until the situation cleared.

The cable further stated that, unless restrictions were adopted by producers generally, it would be difficult to warrant proposals being pressed at Home, in spite of the fact that London strongly sympathised with Ceylon producers.

The cable concluded as follows :—

"What is your opinion of this scheme being supported by local producers, and, roughly what proportion of local interests will join agreement? Telegraph fully, as early as possible, your views on whole subject."

DECISION OF CONFERENCE.

The Conference decided that it was impossible to introduce any form of restriction this year, but that Ceylon producers would be willing to restrict output in 1921 to the extent of 20 per cent of 1920 crops, provided the Straits, Malaya, Java, Sumatra, Borneo, and other Eastern rubber-producing countries would co-operate on the same lines.

It was further decided to ask if the Rubber Growers' Association are in favour of the Governments of Ceylon, Malaya, the Straits and other rubber-growing countries being approached with a view to the imposition of a heavy duty on the export of scrap grades. This, it was thought, would have probably the same effect as a voluntary restriction of output.

CEYLON TEA AND RUBBER.

RESTRICTED OUTPUT.

The Colombo Correspondent of the "Statesman" cabled on the 11th instant:—

At the invitation of the Ceylon Chamber of Commerce representative, tea and rubber producers are to meet in conference at the Chamber to-tomorrow morning, with the object of discussing the serious crisis through which the tea and rubber industries of the Colony are now passing.

The Conference will consider a cable received from the Ceylon Association in London, which announced that, apart from increased stocks in the consuming countries, and large quantities afloat, there will be an unabsorbed surplus exceeding 34 000 tons of rubber on the 31st December, 1920, and a still worse position is feared for 1921. The Association in London considers the position to be grave, and one which calls for immediate action. They, therefore, suggested that the output for the last quarter of 1920 should be reduced by 25 per cent, and for 1921 a 20 per cent. reduction from the normal be affected until the situation is cleared.

With regard to tea, it is understood that further telegrams from the Ceylon Association in London on the subject of the necessity for reducing the output will be considered."

"Even now the Planting Community, as a whole, does not appear to realise the gravity of the situation," said a leading Colombo Estate Agent in the course of conversation with a representative of the "Times of Ceylon." "Many Tea Estates have already been abandoned, and it is certain that others will have to be abandoned soon. This means that many Superintendents are already out of employment, and are seeking fresh billets, which are becoming increasingly hard to find. This situation is likely to become even worse. Except in a few instances, we have already issued instructions to the whole of the Tea Estates for which we are agents to cease manuring forthwith, and other Estates are doing l kewise. There is every indication that the manuring programmes will be soon more or less universally abandoned throughout the Island. The price of manure is very high at the present time, and, so heavily are Tea Estates losing in consequence of the heavy loss on rice and the very low prices now being secured for teas, that they cannot afford to continue their manuring programmes. In all probability the manuring of Rubber Estates will be also stopped to a very considerable extent.

The Agent further expressed the hope that the exceptional gravity of the situation would be more fully realised by Superintendents, and that closer factory supervision would be exercised, in order that better teas may be manufactured in the future. It is a case of back to curry and rice days, and it is essential that every effort be made to manufacture better teas, to supervise more closely the work of pluckers, and reduce working expenses to a minimum.

It is understood that there are very considerable stocks of manure on hand in Ceylon at present, and, at the present price of rice, it may be practicable to utilise some of this manure for forcing paddy crops throughout the country. In the days when rice was to be had for Rs 3 or Rs 4 per bushel, it was considered unprofitable to manure paddy fields, but nowadays it may be different.

THE ANOPHELINE MOSQUITO IN FRANCE.

ROUBAUD (E,). Les Conditions de Nutrition des Anopheles en France (*Anophèles maculipennis*) et le Role du Betail dans la Prophylaxie du Paludisme.—*Ann. Inst. Pasteur, Paris*, xxxiv, no. 4, April 1920 pp. 181—228,

This paper is a sequel to the author's previous work on the infective power of the Anophelines occurring in France [*R. A. E.*, B, vi, 230,], which left certain problems concerning malaria in the hypothetical stage. The existence of Anophelines without malaria, and the obvious and spontaneous diminution of malaria in many of the previously-infested regions of western Europe and, in particular, in France, are questions that have required further study. It has been shown [*loc. city.*] that the explanation does not lie in any acquisition of immunity on the part of *A. maculipennis*. It has been a cause of surprise, also, that the expected recrudescences of the disease consequent upon the return of malarial troops from abroad after the War have been insignificant. The indications were that *A. maculipennis*, the most abundant and widespread Anopheline in France, is not highly pathogenic in that country, owing to some peculiarity in its biology that restrains its activities with regard to man.

Former records of the occurrence of this mosquito in France have always been based upon the finding of larvæ, and conclusions have been drawn on this basis regarding its pathogenicity in a given region, although its appearance in the adult form may not have been observed nor the habits of flight and nutrition of the adults studied. In this connection it may be mentioned that various English writers, commenting upon the occurrence of Anophelines in England, have remarked that they have never known them to bite, and the same may be said of some of the most heavily infested regions in France.

It has generally been understood that A. *maculipennis* shows a decided preference for the blood of animals, the attraction being generally in proportion to the size of the host. It has also been remarked that A. *maculipennis*, while almost domesticated in Algeria and in the Vendee region in France, rarely approaches man in the neighbourhood of Paris. The explanation has been said to lie in the climate. It is admitted that climate is probably one factor, but malaria has raged, and does still, in various regions of northern Europe where the temperature is much lower than that of la Vendée.

The author has studied at great length the relative value of man and animals in the nutrition of Anophelines, and believes that this is the key to the problem. His areas of investigation have been the marshes of the Vendee region and the environs of Paris. The topography of the country in la Vendee, and the nature of the inhabitants and their buildings, are described. The houses are of the most primitive type, low and frequently heavily thatched, and the cattle, the rearing of which is the chief industry, are frequently housed under the same roof. While the marshy region of la Vendee is probably more densely populated with Anophelines than any other part of the world, and in spite of the conditions of life of the inhabitants, malaria is rapidly disappearing throughout the region, and

there has been no recrudescence, in spite of the return of many malarial subjects from the War. A striking feature of the Anopheline incidence is that, on the great marshes, where adults occur with particular density, larvæ are extremely difficult to find, while in the dryer districts, where adults are relatively scarce, larvæ may be found abundantly in the small isolated places where they breed. The explanation given is that, on the great expanse of marsh, the female Anopheline can choose many favourable breeding-grounds and disperse her eggs instead of concentrating them at one point, and thus all are favourably placed for development, while in the smaller isolated breeding-grounds the Anopheline density is limited by the competition among the larvæ concentrated there. It is clear, therefore, that the number of adults observed is the only accurate estimate of Anopheline density.

Investigations have shown that the Anophelines have entirely adapted themselves to sheltering exclusively in buildings of human construction and inhabited by either man or animals, for unoccupied buildings offer no attraction to them. It is evident, moreover, if only from the preponderance of females in buildings containing an animal host, that the shelters are sought for purposes of nourishment and not only for rest. Proof is abundant that A. *maculipennis* bites most frequently inside buildings, and the type of dwelling-place described above offers most attractive conditions for both nourishment and shelter. From repeated examinations of many of these houses, it is clear that the number of Anophelines attracted to that part of the dwelling occupied by human beings is quite insignificant, compared with the enormous quantities that may be caught in the neighbouring portion of the house occupied by domestic animals. Closer examination reveals the fact that human beings play a most unimportant role in the nutrition of Anophelines, and that the various domestic animals have not all the same value in this respect, cattle, horses and mules being the favourite hosts, pigs, goats and sheep being less attractive, and the smaller animals, such as rabbits, being of still less importance. Dogs and fowls are rarely bitten. In regions where A. *maculipennis* is the dominant mosquito, it therefore follows that the maintenance of the former animals in close proximity to human dwellings affords almost complete protection to man against the insect's attacks. In the examinations described, the average number of females that had recently drawn blood from man was 14·2 per cent., while those that had gorged upon domestic animals frequently exceeded 90 per cent. During the summer season, when the animals are kept out in the open both day and night, the stables no longer offer any attraction to female Anophelines, and although many may still be found there, they are invariably fasting, and will readily attack any animal host in full daylight, including man. Wherever the inhabitants of a region complain of mosquito attacks, it is invariably the case that their stables contain but few animals.

In the Vendee region, two different sets of conditions occur; in the drier districts, where the Anopheline density is not very great, the existing mosquitos find sufficient nourishment in the cattle of the district; man is practically free from attack, and may even be unconscious of the presence of large numbers of mosquitos in his near vicinity; while in the marshy districts, where the Anopheline density is too great to find adequate nourishment in the cattle present, man is undoubtedly attacked, but even then the Anophelines seem to bite with repugnance, and without entirely satisfying their hunger.

The conditions in the Paris region have been studied with equal thoroughness, and offer a close analogy with those of the non-marshy regions of la Vendee, namely, the occurrence of Anophelines infair numbers, characterised by the exclusive adaptation of A. *maculipennis* to bovine hosts, which are present in sufficient numbers. So complete is this adaptation, that the presence of the mosquitos often passes entirely unnoticed by man.

In order to obtain an accurate idea of the possible role of A. *maculipennis* in the transmission of malaria, the author has made some study of the activities of the adult mosquitos and their relations with their hosts, whether man or domestic animals. The normal period of activity is generally from midnight to 2 a.m., though in la Vendee the author has observed activity until dawn, that is, before 6 a. m. However favourable the conditions for nutrition may be in the spot where the female has spent the period of daily rest, it is always abandoned for flight in the open air at night, so that a new host must always be found for the meal before the next day's rest. The Anopheline population of any given shelter is therefore entirely, or almost entirely, renewed each night. If, therefore, all the Anophelines present in a certain building were captured and destroyed several days in succession, provided that the host conditions are favourable, the numbers would be constantly replaced, probably without any noticeable modification of the total. It has been proved, by marking some thousand individuals, that the Anopheline fauna of any given spot, however densely populated it may be, is entirely renewed within a few days' time. This regular flight in the open has been proved to be indispensable to the life of A. *maculipennis*. Repeated experiments have shown that, when a score of *A. maculipennis* has been confined in a suitable building with varied and favourable host animals, water and other necessary conditions, one or two individuals at most have been found alive at the end of ten years. After biting, the females of A. *maculipennis* fly to the walls or ceiling of the building, but remain in the near proximity of the host they have bitten. In the large, well-ventilated stables of the better kind of farm, with bare, clean walls and high ceiling, there are frequently no engorged females present, and in fact, animals kept in buildings 20ft. or more in height seem to be as well protected from attack as though they were in the open air. It is thought that better conditions of hygiene and ventilation, with more lofty rooms, have probably done much also to lessen the relations between mosquitos and man.

Some authors have considered that animals are an inimical factor, encouraging a rapid multiplication of the numbers of Anophelines. This, however, is not the case. In the marshy districts of la Vendee, where the Anophelines are not sufficiently nourished, they occur with excessive density, while they are incomparably fewer in the environs of Paris, where the conditions of nourishment from cattle are very much better. The question is largely one of the presence or absence of favourable breeding grounds, which is the fundamental factor in Anopheline development. Malaria epidemics, the result of abnormal frequency of contact of A. *maculipennis* with man, may suddenly arise in a region well stocked with cattle merely in consequence of an increased number of breeding places due to flooding, and a consequent increase in the Anopheline population, requiring greater nourishment. This has been known to occur in la Vendee. The immigration of small settlements of people with but few cattle, in a marshy zone previously uninhabited, may give rise to the outbreak of fresh malaria epidemics,

This explains the occurrence, during the War, of several small foci of indigenous malaria reported from districts poor in cattle. The spontaneous decrease in malaria, so noticeable in the lowlands of la Vendee, in Flanders and Holland, and in the swamps of Tuscany, is coincident with the reclamation of these swampy areas, and also with an alteration in the habits of the Anophelines owing to animals having been substituted for man as hosts. This seems to have been a slowly acquired habit; the repugnance for human blood is certainly not primitive, all that is known of the malaria cycle points the other way, and in essentially malarial countries, such as the unhealthy parts of Italy described by Grassi, the eastern coast of Corsica, Algeria, Morocco, the East, etc., *A. maculipennis*, far from avoiding man, may be found engorged with blood in the majority of houses and encampmen s. The secondary adaptat on of this species to animals, in countries where domestic cattle are abundant, seems to have produced a particular race of mosquito, which is distinguished, not only by its tastes and affinities, but also by its greater size. In modifying their primitive habits of nutrition at the expense of man, the Anophelines of the cattle-stocked regions have broken the closed cycle followed hitherto by the malaria parasites, and suspended the epidemic manifestation of the disease.

The author believes that there is an interesting possibility of introducing what he calls animal prophylaxis in malaria, that is, the importation of cattle to act as a protection to man, and this should be particularly successful in places where the development of the Anopheline fauna occurs in isolated breeding-places. The cattle stables might be used as traps, and, if thorough and extensive destruction of the mosquitos were regularly practised during the period preceding the outbreak of malarial epidemics, the efficiency of the animal prophylaxis should be brought to its maximum. The biological necessities of other species than *A. maculipennis* would also have to be considered. It must be remembered, also, that the introduction of animal hosts is not by itself sufficient as an anti-malarial measure; the necessary conditions of stabling, etc., must also be complied with, and these will vary according to the species. For the purpose of considering this prophylaxis, the author divides Anophelines into two main groups, viz., entophilous species like A. *maculipennis*, that seek their hosts in rooms or closed buildings, stables, etc., and exophilous species like A. *bifurcatus*, that attack their hosts in the open air or under verandahs, sheds, etc. A third group might be called amphophilous, and would consist of those species that attack equally in or out of doors. The cattle used as protection would therefore have to be placed under conditions of attack corresponding to the different biological categories, the local methods of rearing cattle being modified, more or less completely, to suit the requirements of the human population. When the necessary local modifications are understood, it is believed that this new prophylactic measure would contribute largely to the elimination of malaria.

(Review of applied Entomology, Vol. VIII, Part 8, pp. 129-144, August 1920).

NOTES AND NEWS.

Exports from Cochin.

The following figures from the "Cochin Chamber of Commerce" Montly Price Current show the exports from Cochin of Tea, Rubber and Coffee during the month of August, 1920.—

	For United Kingdom.	For United States of America.	Other Ports.
Tea. ...	8,32,500 lbs.	...	9,100 lbs.
Rubber. ...	2,51,115 lbs.	1,56,810 lbs.	75,280 lbs.
Coffee. ...	73 cwts.	...	...

The Mycological Station.

We understand that Mr. McRae will be unable to get away from Pusa this month as he intended, and will not, therefore, accompany Messrs. Parnell and Norris on their visit to Mundakayam this week. We hear, however, that we may have the pleasure of seeing Mr. McRae sometime in October.

The Book of Proceedings.

We have received from the Secretary, U. P. A. S. I., a copy of the Book of Proceedings of the U. P. A. S. I. twenty-seventh Annual General Meeting. It is as usual very nicely got up. and reflects great credit on those concerned in its production. Only a limited number have been printed, and orders for copies are coming in freely. Honorary Secretaries and others interested would do well, therefore, to place their orders at once, if they have not already done so. The price per copy is Rs. 2/8 post free, and all requisitions should be addressed to the Secretary, U. P. A. S. I., Coimbatore

Mr. J. J. Murphy.

This well known Mundakayam planter proceeds home on a short visit early in October. We cannot say we are enamoured of his native country as a holiday resort just now, but let us hope that, by the time Mr. Murphy gets there, some solution of Ireland's troubles will have been reached, so that an old friend may enjoy in peace his well-earned holiday.

Motor-car Production in U.S.A.

The rapid growth of the American motor industry in recent years is illustrated in the following table:—

Output of New Cars, U.S.A.

	Number.	Value in Dollars.
1914	569,054	458,957,000
1916	1,583,617	954,969,000
1917	1,868,949	1,274,488,000
1918	1,223,638	1,236,106,000
1919	1,974,016	1,885,112,000

The fall in 1918 was due to restriction of production by the Government. Present estimates for 1920 point to an output of 1,600,000 passenger cars and 400,000 lorries, the increase permitting a reduction in prices, of which we lately had an example in the case of Ford cars.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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OUR SOUTH INDIAN PLANTER.

A letter under this heading appeared in the *Madras Times* of 25th September, and we accede to the request of the correspondent, "P.D.," whoever he may be, by publishing it in full in this issue. It refers to a leader by our Madras contemporary summarising the report of the F. M. S. Labour Committee, and, since this subject was fully dealt with by us at the time of the publication of the report, we fail to see why " P. D." could not have written to us direct. However, that is perhaps another story; let us deal with the subject once again.

The first point in " P. D's" letter which strikes us as needing attention, is his statement that the Indian cooly in Ceylon is a far better specimen than his brother employed on South Indian Estates. He proceeds to wonder how many planters there are in S. India who can answer this question, correctly. It is a pity " P. D." does not proceed to do so himself, and so give us another point on which we could base a campaign to keep the best labour in the country, but we imagine we know fairly well what the reason is, and do not hesitate to say it is entirely a question of the system under which the labour is recruited. The Ceylon Kanghany, in the first place, is not allowed to recruit labour in a taluk other than that in which he resides. The immediate result of this is that he knows practically every cooly personally, whereas, in S. India the Kanghany, so far as our

own experience goes, wanders from Taluk to Taluk picking up coolies here and there, employing recruiters to bring them in, often in fact not seeing the labour till it is produced at the Railway Station for entrainment. This is not general, of course, but, with increasing competition, is becoming more and more the case, with the result that the visiting Kanghany picks up largely the rejected of the resident maistry. But this is only one of the reasons. The second is also an inherent part of the Ceylon system, and lies in the rejection by the Ceylon Labour Commission of the physically unfit when presented at the depots. It must be remembered that the cooly going to Ceylon is first taken to a depot, where he is kept a certain length of time, fed, clothed, washed and generally mothered, from here he proceeds to the camp at Mandapam, where he undergoes a further period of detention so that, by the time he proceeds to Ceylon, there is absolute certainty that he is fit and free from any incipient contagious disease. Knowing that they will be rejected at sight if physically unfit, the Kanghany takes care not to spend money on the halt and weak, whereas the system of pre-advancing in South India is such that, if the Estate rejects the 25% or whatever it is of physically unfit on arrival at the Estate, it is paramount to throwing away the same percentage of the advance, not to mention the way expenses already paid. The Labour Department has always steadily set its face against the depot system in India, and quite rightly so, since expenditure on the depots, similar to that incurred by Ceylon, does not remove the facilities labour has in this country for bolting, a thing it cannot do in Ceylon and the F. M. S.

The next point, that of realising the enormous difference in the conditions of life in the low country in 1914, and the present day, is one we have already dealt with. Whether the wages of manual labour have gone up 300% or 50% does not matter. It is not enough to say wages in the low country are so much, we must therefore pay a bit more, that phrase is emphasised by the F. M. S. Committee and we agree. It is necessary to study the standard of living in the low country, and to realise that, now-a-days a cooly can earn sufficient to provide himself with a day's food at so much, a certain quantity of "selluvu" and small luxuries, a suit of clothes now and again and, in addition, be able to put a little by for a rainy day. Now, if wages are raised directly to the amoun necessary for the cooly to attain the end described above, it is going to be very difficult to reduce them again when cost of living goes down. It is, in fact, economically unsound to raise wages to meet a temporary emergency. The present emergency is only in part temporary. Admitting that prices of food-stuffs and clothing will sooner or later decrease, they are not likely to go down to the pre-war level, and in any case the standard of living will remain considerably higher than it was. It is for this reason that a direct increase of wages to the present standard is not finding favour and, in the F. M. S. at any rate, a small increase is coupled with the continued rice concession, the latter being removable as circumstances admit.

To increase wages indiscriminately and grant concessions which have no relation whatever to the standard of living, and, as "P.D." says, lead merely to cut-throat competition, is more than unwise, it is sheer folly, but until there is more co-ordination between planters these factors are bound to exist. Here in India, if the U. P. A. S. I. were to suggest measures to remedy the present evils, some would agree and others would not, whereas in the F. M. S. and Ceylon planters have simply got to fall into line. We read, for instance, in the *Malay Weekly Mail* a "kick" signed "Nilai,"

regarding the following notice issued by the Assistant Controller of Labour F, M. S. *Kanghany Licenses* :—

> " In view of the fact that the General Labour Committee agreed on a minimum wage for men of 50 cents and for women of 40 cents, all recruiting licenses offering a lower wage will not in future be passed."

Commenting on this " Nilai" says :—

> " It would be interesting to know by whose authority the Labour Department takes it upon itself to issue a notice of this sort. We were under the impression that the Labour Report contained ' Recommendations ' not ' Orders.' "

Imagine what would happen if the U. P. A. S I. passed a rule that every subscriber must pay a fixed rate of pay or his Kanghanies would not be registered, or laid down what rice concessions should be granted. That is the rub, it would be an excellent thing if it could be done, advances could be controlled, pay fixed, rice allowance fixed, Maistry's remuneration fixed, way expenses fixed, *etcetera*, BUT ! ! !.....

Some day, unless recruiting is stopped altogether, we shall arrive at a stage where conditions under which recruiting is carried on will be laid down by the country in which it takes place, and not by the country to which the labour emigrates. We shall then all be on an equal footing and, whatever our friends the enemy may say, it is inherent in every country to lay down the conditions under which its population may be recruited.

But that is anticipating the Millenium.

THE NEED FOR EFFECTUAL DEVELOPMENT OF INDUSTRIES IN INDIA.

A Syllogism by Mr. J. Pagan Dalzell, General Manager of the Mysore Industrial Bank, Limited.

The economic wealth and industrial prominence of Western Nations are the outcome of science and technology, and the co-operation of Science and Industry with the necessary backing of Capital.

Western Countries which are not endowed with natural resources of minerals, forest and other raw products for the requirements of their various industries and trades, have overcome their economic deficiencies by importing the requisite essentials, and have progressed and prospered.

England has built up the most magnificient economic structure through the brains of her Industrialists and Capitalists, and the systematic application of scientific research to problems in industry, and to evolve new methods to improve and increase the efficiency of existing processes.

In practice, this scientific research is carried on by Research Associations which are voluntary non-profit-sharing associations of various Brit sh Manufacturers, who combine in this way to ensure industrial progress and development.

This co-operation of Science and Industry, which has brought about invaluable and far-reaching results, is carried out on strict business lines under the direct control of the Industries concerned, and all discoveries and improvements are at the immediate disposal of those contributing to the common fund on an agreed scale.

Approved Research Associations also receive Government aid in the shape of grants through the Department of Scientific and Industrial Research, which has a million sterling at its disposal. In India, there is no such organization, and with all her vast natural resources of minerals : forest and other raw products and materials : tremendous possibilities for the generation of cheap Hydro-Electric power and unlimited labour, with the exception of a few successful indigenous industries, she has remained economically undeveloped and content to export most of her raw products, to be manufactured and the manufacturers profits to be reaped elsewhere.

The most important occupations of the people of India are agriculture and pasturage, over 72% of the entire population of 315 millions being dependent thereon for their livelihood.

Next in importance to agriculture come indigenous industries of various kinds, which give employment to something like 58% million persons.

The most important of these industries are Cotton and Jute Mills, Tea manufacture and Coal mining, all of which, thanks to European enterprise and the introduction of power—driven machinery and mechanical appliances, prosper and flourish.

India has been the home of the Cotton Industry from the earliest times, and before the invention and development of the spinning jenny and the power loom in England, the produce of the hand looms of India were exported and had a world wide reputation. The earliest attempt to establish power-driven Cotton Spinning and Weaving Mills in India was in the year 1838, but it was not till 1856 that the foundations of this great and prosperous industry were laid in Bombay. Since then, Cotton Mills have sprung up in many parts of India, and they are able to produce and supply practically all the people's requirements in the shape of yarn and the coarser grades of cloth, and to export them to other countries. There has been a tendency of late years to try and spin higher counts of yarn, to do which, it has been necessary to import American and Egyptian Cotton. Attempts have also been made to improve the quality of cloth, but Lancashire holds an unassailable position in the manufacture of the high-grade stuffs which the educated and refined classes find necessary, and to produce which the material and manufacturing ability are at present absent in India.

During the year 1918-19 India imported £34'458,000 worth of manufactured cotton goods, most of which came from Manchester.

A confederacy of the cotton and other textile industries in India, to co-ordinate a Scientific Research Association on the lines of the British Cotton Manufacturers' and the Woollen and Worsted Industries' Research Associations, for the application of scientific research to improve the quality and increase the quantity of raw materials and discover new and improved methods of manufacture, would be advantageous, and do much to always keep these valuable industries in the forefront

Considering the comparatively recent origin of the Indian Jute Industry, its uninterrupted progress and prosperity speak volumes.

The first power-loom was set up in the year 1859, and the original outturn was about 8 tons a day. To-day, there are something like 52 Jute Mills in India and the outturn has risen to over 3000 tons daily. Last year, the export of manufactured Jute approximately amounted to 42 Crores of Rupees, and is steadily increasing.

The Tea and Coal industries are both thriving and prosperous. The latter is at present an important factor in the matter of Railways and those industries which employ power-driven machinery, but the development of cheap Hydro-Electric power is bound to affect the Coal Industry as time goes on.

To parry this curtailment, and at the same time confer an inestimable boon on agriculture, immediate steps should be taken for the scientific adaptation of coal in place of cow-manure for fuel for the masses, who are almost entirely dependent on the latter for their domestic purposes, and for which they denude the country of a most valuable asset.

Observation has thus far been directed to the principal indigenous industries which prosper and flourish, and which throw into relief those that are backward and languish for lack of scientific care and protection, or the want of financial nourishment. The Indigo, Coffee, Silk and Paper Industries may be cited as typical examples.

At one time, the indigo industry of India was a thriving and prosperous one, and fortunes were made in it. Its quality is unrivalled, and the demand for indigo dye grew by leaps and bounds, until in the year 1897, the value of exports from India amounted to over 3 millions sterling.

In the happy, halcyon day of the industry, when, owing to its unrivalled quality, and the fact that there was no known substitute that could compete against it, the Indigo Planters were oblivious to the portents of the constant complaints of the Dye Traders of Europe in regard to the high price charged, and the unsatisfactory manner in which the dye was put up for the market.

The Nemesis of insouciance overtook the Planters in 1897, when, as the result of their negligence, German science discovered and placed a cheap synthetic substitute on the market.

Since then the decline of the indigo industry has been rapid, but, owing to the impossibility of obtaining chemical dyes during the War, there has been a revival, and in 1916—17 exports of Indigo amounted to £1,383,999 as compared with 3 millions sterling in the fateful year 1897.

It would seem to stand to reason that any stuff that grows and is produced naturally should be able to compete successfully with an article which is produced artificially, and it is not unnatural to suppose that as science was able to discover a cheap substitute for Indigo, science should be equally able to discover improvements in the methods of growing, manufacturing and marketing indigo, to enable it to compete successfully, quality for quality, and quality for price, with its inferior rival in the markets of the World.

What is required, to effectively restore and develop the Indigo Dye Industry, is a confederation of the Planters to organize a Research Associa

tion for the systematic application of scientific research, to discover new methods and improvements in regard to growing and producing indigo, the process of manufacture and the method and style of marketing it.

It would prove advantageous if all the Planting industries in India were to form a conjoint Scientific Research Association for the common weal. The adage :—Unity is strength, has more in it than meets the eye.

To ensure the best and most effective results from the co-operation of science and industry, it is essential to have a powerful financial backing, such as the Industrial banks are designed to extend, to finance the rejuvenated industries *ab ovo usque ad mala*.

The same remarks apply to the Indian Coffee Industry. It has received a great setback by the introduction of large supplies of cheap Brazilian Coffees in the markets of Europe, which have brought prices down.

The Indian Coffee berry is of superior quality, despite which, and the fact that the cost of labour in Brazil-chiefly Italian-is very much higher than it is in India, the Indian Coffee Industry has declined steadily since the year 1806.

By scientific cultivation and overcoming the cost of labour : by the introduction of up-to date machinery and labour saving devices,—which extend to machine-plucking the berry,—the Coffee growers in Brazil have hit the Coffee Industry of India very seriously, but not so seriously as to prevent it regaining ascendency provided the situation is tackled scientifically and in a business like manner.

What the Indian coffee Industry stands badly in need of is more Capital, wherewith to bringabout the scientific introduction of much needed machinery and mechanical appliances necessary for up-to-date methods of handling and curing the berry, and cheap mechanical transport.

As in the case of the Indigo and other industries, what is required is a confederation of the Coffee Planters to organize a Scientific Research Association, to discover new and improved methods which will effectually overcome imperfections and difficulties.

Unlike the other industries referred to, the Silk industry in India, from the effective development point of view, has scarcely emerged from the chrysalis stage of the worm that produces the staple of the industry.

Frequent endeavours have been made to develop sericulture by importing Experts to formulate recommendations, which have resulted in sporadic efforts being directed from time to time to improve the breed of Silkworms and methods of filature, and the growing of mulberry trees.

The effectual development of the Silk Industry on sound commercial lines is hampered at the very start by the crass ignorance of the illiterate peasant population, who are engaged in handling the raw silk from the earliest stages.

The peasant class who depend on sericulturef or a livelihood are intensely ignorant and quite illiterate, and the traditional methods in which they carry on their business of rearing silk worms and reeling the raw silk are as inefficient and wasteful as they are crude.

The first essentials, to overcome these primary obstacles to effectual development, are to inculcate in the people a working knowledge of sound methods in mulberry cultivation and rearing Silkworms, and to supply them with sericultural requisites. When such knowledge has been implanted and the requisite "industrial atmosphere" has been created, it will be necessary to introduce European machinery and up-to-date methods for reeling raw silk, and to improve and to expand silk filature on a sound commercial basis.

It is too early at this stage to invoke science: primary instruction is necessary before it can be possible to substitute up-to-date processes for primitive ones.

This can be best done by the formation of Companies with adequate Capital to establish and equip up-to-date Silk Farms in suitable areas, and to employ educated Indians who are competent to acquire the requisite technical experience, to enable them to be sent out to the rural districts to inculcate the required working knowledge among the people, to improve the quality of raw silk, and to increase the area of production.

Besides thus bringing about the technical education of the peasants, the Companies would require to finance them and supply them with all necessary sericultural requisites to improve and develop the production of raw silk on co-operative lines. Thereafter, the scientific development of the silk industry on a commercial basis is fraught with very great possibilities.

As regards the Paper-making Industry in India, according to the latest statistics available, India's annual requirements amounted to a least 75,000 tons of manufactured paper, pasteboard, etc., towards which the indigenous Paper Mills supplied about one-third, and then only by the importation of upwards of 13,000 tons of paper pulp from other paper producing countries.

The paper-making industry's is prosperous and pays handsomely, but its restricted scope, despite the vast quantities of grasses, bamboos and other raw materials which the forests of India produce, and which could be utilized for the manufacture of the 50,000 tons of paper and pasteboard which India now imports annually, serves as an example of the need there is for the application of scientific research and up-to-date processes for paper making, to make the country not only self-supporting in that respect, but in a position also, to export the requirements of others.

In the matter of Imports and Exports, India comes second to the United Kingdom itself in the volume of sea-borne trade, which is twice as much as it was 25 years ago, and is almost equal to that of Australia and Canada combined. During 1918-19 India's Imports amounted to £112,689,000, of which practically all were manufactured goods. Exports amounted to £159,531,000 of which two-thirds consisted of raw produce and material. According to these figures, in 1918-19 India exported £106,678,000 worth of raw produce and imported £112,689,000 worth of manufactured goods, including the £34,458,000 worth of cotton goods.

These figures, under War conditions, do not of course represent the normal volume of India's Imports and Exports, but they serve to demonstrate that India, despite all her vast natural resources, continues to be economically undeveloped, and almost entirely dependent on other countries for her requirements of manufactured and finished goods.

The only attempts at industrial development in India are usually confined to the multiplication of known and tried indigenous industries, and there never has been any serious attempt to effectively set up all the essentials necessary for the introduction of the many other industries and

trades which are essential to make the country as self-supporting and economically independent as possible.

The Government of India, and some of the Native States, have recognized that something should be done to promote industrial development, but it is not, and never can be possible for any State or Government, *per se*, to effectively bring about the industrial expansion of any country.

Similarly, it is fallacious to suppose that the more coming into existence of Industrial Banks will prove a short cut to India's economic salvation.

In Europe, America and Japan, where scientific knowledge and technical experience exist and trend to industrial evolution, Industrial Banks were designed and started to succour and assist nascent enterprises. It was not the intention that the Banks themselves should conceive and consummate such undertakings, nor are they equipped for that purpose.

By giving effect to the functions assigned to them and unstinted finance to ensure success, the Industrial Banks have proved useful and successful.

Before Industrial Banking can achieve the same purpose in India, the country must advance beyond the primordial state, to enable Industrial Banks to take up their assigned place in the general scheme of industrial expansion.

To successfully overcome industrial backwardness and inertia, and effectually set up the essentials for industrial development, there must be intensive Co-operation of Science and Industry, and, where the nd genus essentials are defective or missing, no efforts must be spared or inducements withheld to bring about the immigration of the requisite technology, skill and appliances to ensure success.

Those who are zealous for India's advancement, and have the welfare of the country at heart, should remember that the economic development and resultant prosperity of the country is the surest way to bring about the happiness and contentment of the people. As it is only by unselfish co-operation, and a firm determination to win through, that this good purpose can be achieved, they should come forward to asssist in achieving it.

Bangalore, 15th : September 1920.

HOOKWORM.

The following correspondence has passed between the Surgeon General with the Government of Madras and Dr. G. P. Paul.—

Copy of a D. O. dated 26th August 1920, from the Hon'ble Major-General G. G. Giffard, C. S. I., K. H. S, I. M. S, Surgeon-General with the Government of Madras, to Dr. Paul, Manantoddy.

At a conference with the South Indian United Planters Association yesterday, I was asked some questions about hookworm which I could not answer with accuracy, and I promised to obtain your opinion. Would you kindly let me know whether these questions can be answered with accuracy.

What is the length of life of the embryos of hookworm on vegetation, in water and on the surface of the ground, exposed to air and sunlight? This point came up in a discussion as to whether it was feasible for a planter to make an area round the cooly lines free from hookworm embryos.

The second question asked was, if infected night soil is buried in a trench, how deep must the trench be to ensure that the embryos are not able to reach the surface and infect the ground or the vegetation around.

The third question asked was, supposing that the planters were willing to put all their coolies into a depot on the way up from the plains, and to treat them in the depot for hookworm before they were allowed to go on to

the estates, what will the intervals be between the dosage of the thymol, and how long would each cooly have to stay in the depot ? The last question was, is it possible effectively to destroy, by disinfection or by fire or in any other means, all ova embryos in an area of a quarter of a mile or so round all the cooly lines, or at the places where the ground has become already infected because it is used as an open latrine.

I spoke to Mr Nicolis at the meeting, and he told me that he would be delighted, if you would give him a week's warning, to put you up in his house and to give you every assistance for working on his estate. I told him that I would write to you, and that you would make direct arrangements with him.

Since last writing to you, the Buckingham Carnatic Mills in Madras, who employ about 8 thousand hands, have asked me to request you to go there when you have finished with your present investigation. There is also a large field of work open for the Kolar Gold Fields, where, I understand, workers are known to be heavily infected, and where one hundred thousand people are employed.

I shall be in Ootacamund from the 2nd to the 26th of September, and, if it were possible, I should like either to come down and see you or for you to come and see me, as there are a good many problems connected with this enquiry which I should very much like to discuss with you personally.

Copy of a letter dated 30th August 1920, from Dr. George Paul, to the Hon'ble the Surgeon-General with the Government of Madras.

In answer to your queries put forth in your communication of the 26th instant, it may be stated that the length of life of the hookworm larvæ under varying conditions is a much-mooted question, and cannot be accurately answered. For practical purposes, it may be stated that the preponderance of infective larvae have disappeared from the soil within twelve months, provided no fecal material has been added in the meantime. The duration of life of the larvæ in water has been placed at two months. Drying and direct sunlight are inimical to the larvæ. The liberation of the soil from larvae in the vicinity of coolie lines has been attempted. Iron sulphate solution, and also fire, have been tried with some success. This should not be entirely relied upon. The larvae exist in different depths of the soil.

It is felt that nightsoil might be safely buried in trenches provided certain precautions are taken. The trenches should be lined with hessian or burlap impregnated with crude petroleum, the layers of feces alternating with layers of lime. The upper surface of the fecal material not coming within three feet of the surface of the ground and treated with lime and covered well with soil. The covered trench should be fenced off and posted.

Coolies treated in a depot before entering the estates may be given three treatments with thymol at six day intervals, or, a total stay of two weeks. They could be given two treatments in seven days, and the remaining treatment given at the estate.

Complete destructiou of all ova and larvæ in the soil for a quarter mile or more round coolie lines or infected areas cannot be said to be feasible. The real practical solution is the cessation of soil pollution, the construction of proper and sufficient latrines, their enforced use by the coolies for the period of a year before the institution of a curative campaign.

We are now beginning work on Jessie estate, near Manantuddy village. In the very near future, I shall get in communication with Mr. Nicholls.

By September 5th, we will have our work well under way on this estate, and it will be possible for me to leave the staff in charge after that date, and, at your convenience, I shall be glad to come to you to personally discuss campaign matters.

THE PLANTERS' AND HOOKWORM DISEASE.

It was deemed, advisable, by the Surgeon-General with the Government of Madras, to present the subject of hookworm disease to the planters of South India in such a way that it would appeal to them from an economic stand-point. Planters, like other business people, are in their work for what may be obtained from it. There may be exceptions to this statement. If a planter may find any means by which production may be bettered or increased and revenue amplified, he is only too ready to make use of the same. An estate may be endowed with most fertile soil and excellent superintendency, but if the machinery, the human machinery, the labour force is not efficient, is not up to the standard, then that estate falls below full production. An ill person is physically below par, is inefficient and possibly detrimental. It matters not whether that ill person is incapacitated through an acute attack of cholera, or is attempting to work although he is infected with hookworms. A hookworm-infected coolie is an ill person, he is physically reduced, he is inefficient. Many coolies suffering from hookworm disease show no signs of illness, and it may be difficult to persuade them that they are ill, and need relief. Although the infected coolie may not think that he is ill, he fully realizes the difference in his feelings and physical welfare after having taken a course of hookworm treatment.

The coffee planters of Porto Rico, the sugar planters of Demerara, the cocoa planters of Trinidad, the tea planters of Ceylon and Darjeeling fully realize the economic value of hookworm control campaigns. They know that the hookworm-infected coolie, regardless of the degree of infection, is lessening the production of their estates. To overcome the obstacle, they were willing to expend money. They consider the disbursed funds as an investment, which would eventually be returned manifold.

Hookworm disease is dependent upon soil pollution. The ground derives its infestation from infected persons. These two basic facts should be constantly kept in mind. The cycle is from ground to man and from man to ground. The two parts of the cycle are distinct. The adult worm is found only in the person, the deposition *i.e*, laying of eggs takes place only in the bowels of men. The eggs hatch outside of the human body, principally upon the ground, the larvae or young worms are found in the soil. No reproduction nor multiplication occurs in man. Every worm that escapes from the bowels entered the body as a worm. Infection takes place principally through the skin, especially of the feet and legs.

The control of this disease depends upon two measures; the prevention of soil pollution by latrine systems, and the reduction of the worm population in man. Both measures are very important, the one should not be undertaken to the exclusion of the other. It has been found by extensive investigation and experience that it is far better to institute soil-pollution-prevention measures first. If the estate is first equipped with proper and adequate latrines, and their use enforced for an extended time before the curative campaign is commenced, the very best results will be forthcoming. It is folly to expect permanent good results to succeed the partail treatment of part of the labour force and the non-installation of latrines. The average coolie is not adverse to the use of a proper latrine. This has been proven in and out of India. Of course, the coolie cannot use a latrine that does not exist. With some coolies, urgent measures may be necessary at the beginning. If the maistry is made responsible for soil pollution that takes place about his lines, and by his coolies during field work, much good may be expected.

At the recent meeting of the United Planters' Association of South India held at Bangalore, a number of questions pertaining to hookworm control measures were raised. The ridding of soil pollution about the lines was the basis of some of the questions. The application of a weak solution of iron sulphate to the surface has been recommended for this purpose, as has also the use of fire. These means may destroy larvæ that are at the surface at the time, but not those more deeply in the soil. These measures cannot replace those which tend to prevent pollution of the soil. How long do the larvæ live in the soil? Investigators state that most of the larvæ have died or been destroyed within the first year of life, and probably the great majority within the first six months. Will a single course of treatment suffice for permanent effect? Treatments instituted after the installation of proper and adequate latrines will give the best results, and those of longest standing and most profitable returns. Treatment without latrine establishent will give good returns, especially if they are followed by semi-annual treatment. The results, of course, will not nearly equal those derived from the former method. The writer is of the opinion that a single treatment, given to a single coolie, will result profitably to the planter. The ridding of soil pollution within the tea fields by means of chemicals, fire or other measures is impracticable. Time, and the cessation of further pollution are the only reliable remedies. What may the planter expect after a thorough prevention and curative campaign? He will have a labour force that is physically stronger, that is more efficient, that resists other diseases more readily, that has a greatly reduced number of absentees and sick individuals, and last, but not least a future labour force derived from vigorous children.

The particular type of latrine system will vary with the estate and the amount of money to be invested. The septic tank principle is without doubt the best form. Each set of lines has its system of latrines, whereby the feces fall directly into the water-tight digestion or septic tank. Instead of each latrine having a septic tank arrangement, there may be one or more central tanks, to which the fecal material is taken in the buckets or chatties obtained from the respective latrines. In very favourable locations, the fecal material may be conveyed to the septic tank from the various latrines by water, flowing through conduits. The principle of of the septic tank, as is well understood, depends upon the digestion or dissolution of the organic fecal material by the action of bacteria, ærobic and anærobic. As the hookworm eggs and larvæ are heavy, they remain in the bottom of the receptable until destroyed. The upper structure should be so made as to provide privacy, protection and the segregation of the sexes. Furthermore, entrance of flies into the tank or pit should be prevented by fitting each opening in the squatting platform with a self-closing lid.

If conditions will allow, a pit-type of latrine may be used. Before the installation of pit privies, the subject of pollution of sources of drinking water should be carefully studied. The pit should be dug as deeply as possible, without approaching the water table. The pit must be fully lined with hessian or sacking fabric, which should be thoroughly saturated with crude petroleum. At repeated intervals, the hessian or other material should be sprayed from the feces level upward with crude petroleum. When the pit has been filled within three or four feet of the top, an adequate layer of quick lime should be applied and the remainder filled with soil. A new pit is provided, and the superstructure placed over it. The filled pit should be fenced in and posted.

The pail or bucket system may be employed. This is similar to the pit privy, except that, instead of having a common pit beneath all of the

openings, an individual pail, bucket or chatty is placed under each opening in a fly-tight compartment. Each day the contents of the receptacles are removed to a septic tank, proper pit, or are incinerated.

The latrines should not be located too distant from the lines, as the coolies will not go far to relieve themselves. Covered chatties may be kept near the lines for the use of children during the day. This will prevent much soil pollution, There should be a set of latrines near the factory and other buildings where coolies are employed. Soil pollution in tea fields may be prevented by the use of portable closets, or by the erection of single latrines at handy locations within the tea fields.

A word as to the procedure followed by the Anti-Hookworm Campaign under the Surgeon-General with the Goverment of Madras may not be amiss.

The coolies are given three treatments, at intervals of not less than one week. A hundred or more coolies may be treated daily. This being the case, a labour force of 600 or thereabouts may be given one treatment in a week, or the full course in three weeks. The time taken depends upon the number of coolies that the estate is willing to daily give up for treatment. On the morning of treatment, the coolie is given half of the thymol combination at a specified hour, the second half of the thymol is given administered. A portion of rice congee is usually given to each coolie after the bowels have acted thoroughly. The congee breaks the fast, replaces liquids lost by purgation, and stimulates the person.

Three treatments are found to free 80 per cent or more of the coolies from hookworms, and to reduce the worm-content of the others to below the danger point.

(Signed) GEORGE P. PAUL.

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee held at Calcutta, 14th September, 1920.

PROCEEDINGS.— The proceedings of the last meeting of the Committee on 31st August 1920 were confirmed after previous approval in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON).— Letters dated 12th and 19th Augnst 1920 from the Indian Tea Association, (London), which had been circulated, were now to be recorded.

REGULATION OF SHIPMENTS OF TEA FROM INDIA.—It was stated in the proceedings of 31st August 1920 that further consideration of this question had been deferred, pending the arrival of replies from the London Association, to the Committee's cables of 17th and 18th August 1920. At the request of the Committee, the Chairman of the Calcutta Liners' Conference (Mr. A, McD. Eddis) and Mr. T. E. Cunningham, attended the meeting as representatives of the Liners' Conference, to discuss the position. Although the Committee themselves were of the opinion that the restrictions proposed were to apply to United Kingdom ports, and not to London only, this point was not clear in the telegrams from the London Association, but this understanding was confirmed by advices which the Calcutta Conference had received from the London Conference. The proposal was that monthly shipments from Calcutta and Chittagong be restricted to 5% monthly of the total estimated crop for 1920. The question of procedure was discussed with the Conference representatives. and it was agreed that action on the lines of the rationing scheme explained in the correspondence within pages 80 and 91 of the Association's report for 1917 would meet the position. It was thought that the percentages published in the Committee's

circular No. 39, dated 12th August 1919, would probably be suitable for adoption in this connection. Meantime, the representatives of the Liners Conference promised to explain to the London Conference how it was proposed to restrict shipments, and the Committee hope to learn soon from the Calcutta Conference that arrangements for restricting shipments, on the lines agreed upon, can be made and put into operation with effect from 1st October 1920.

RESTRICTION ON EXPORTS FROM THE UNITED KINGDOM: EXPORTS UNDER LICENSES.—In the proceedings of 11th May 1920 there was reproduced a reply dated 26th April 1920 which had been received from the Government of India, Department of Commerce, with reference to the Committee's representations for the removal of all restrictions on the export of tea from the United Kingdom. In that letter the Government of India advised that, while the Ministry of Food was unwilling to remove the Prohibition altogether, it had allowed purchases at public sales for export since January 1920, and was asking the Board of Trade to allow the unrestricted export of tea under license so long as supplies in the United Kingdom were not endangered.

In connection with this question, the Committee received a telegram dated 31st August 1920 from the Ceylon Chamber of Commerce in the following terms :—

"Following telegram despatched Ceylon Association London to-day "begins we consider you and Confereuce should strongly press for imme- "diate withdrawal of restrictions export tea from United Kingdom in order "to relieve congestion bonded accommodation ends request your strong "support Ceylon Chamber of Commerce."

This telegram was followed by a letter dated 1st September from the Ceylon Chamber. The letter referred to a press report of a representative meeting in London when the Vice-Chairman of the Indian Tea Association, London, urged the authorities to abandon all restrictions and licenses and thus allow tea to be a commodity of free export from London. The Ceylon Chamber contended that, if this were agreed to, the resultant removal of tea from the present congested bonded warehouse would go a long way to relieve the present unfortunate position, and allow tea from India and Ceylon to go forward without the adoption of any system of rationing on the part of the Liners. The view was also expressed that the industry would be benefited by the immediate removal of all manner of control over tea.

The Committee were in entire agreement with the above views, and they directed the Secretary to submit, for approval, a draft letter to the Government of India, Department of Commerce, urging the immediate necessity for further representations to be made to His Majesty's Secretary of State for India for the removal of all manner of control over tea exports from the United Kingdom.

PROPOSAL TO RESTRICT PRODUCTION OF TEA.—A cable dated 8th September 1920 had been received from the Indian Tea Association, London, in the following terms :—

"Following resolutions were unanimously agreed to at a meeting of Com- "mittee to day subject to general support and Ceylon taking similar action "begins the Committee recommend that the production of tea in India for "the current season 1920 be reduced by 10% of the average production for "the five preceding years 1915 to 1919 leaving to each producer the methods "by which such reduction should be made further recommended that the "crop for next year be reduced by 20% of the average production for the "year 1915 to 1919 ends views of proprietors being obtained suggest that "you take similar action and telegraph result as quickly as possible, "Ceylon expected to co-operate."

It was not clear to the Committee from the above message, what the London Committee had recommended in the matter of reducing production. It might read that it was proposed to reduce the 1920 crop to 90% of the average of the crops for the years 1915 to 1919, or it might be interpreted to mean that it was proposed to reduce the estimated crop for 1920 by 10% of the average crop for these five years. As this point was required to be made clear before proprietors could be approached, it was agreed to wire the London Association immediately as follows:—

"Your cable 8th September do you mean current season's crop should "be restricted to 90% of the average for 5 preceding years or do you suggest "originally estimated crop for current season should be reduced by 10% of "the average of the previous five years."

IMPERIAL SHIPPING COMMITTEE.—Copy of a press communique dated 3rd September 1920 by the Commerce Department of the Government of India, intimating the manner in which suggestions or representations to the above Committee should be submitted, had been seen in circulation, and was now to be recorded.

OCEAN FREIGHT AGREEMENT: TEA RATE FOR SEPTEMBER, 1920.— A letter dated 31st August 1920 had been received from the Bengal Chamber of Commerce intimating that the tea rate for September 1920 would be £6 16s. 3d. Members of the Association had been advised to this effect, and a cable had been sent to the Indian Tea Association, London, giving them the information. The letter was now to be recorded.

NORTH MYSORE PLANTERS' vs. AMATEUR SPORTS ASSOCIATION.

Played at Chickmagalur on the 18th instant, resulting in a win for the Planters by 8 wickets.

This was the first side the Planters have been able to "field" for many years and the result was a surprising one. For the Association Mohan Singh played well for his 30 but could get no one to stay with him, although Krishna Rao and Latchman Rao hit brilliantly for their somewhat short but merry "lives." Major Errington carried off the bowling honours with 7 for 37 for the Planters and Mr. Allardyce brought off two wonderful catches.

The Planters innings opened steadily but eventually Capt. Browne made the winning runs by hitting a good "six." Good scores were also put by Errington, Nixen and Harman. The Deputy Commissioner Mr. Mylar Rao must be congratulated on bringing off four excellent catches.

AMATEUR SPORTS ASSOCIATION (CHICKMAGALUR).

Narayan Rao	b	Errington	...	2
Venugopaul c. Allardyce	b	Errington	...	0
Mohan Singh c English	b	Errington	...	30
Sreeram Iyengar 1 bw.	b	Errington	...	5
Gulab Singh c. English	b	Browne	...	1
Mylar Rao c Nixon	b	Errington	...	1
Krishna Iyengar std. English	b	Nixon	...	20
Dayanath c, Allardyce	b	Errington	...	5
Lucbman Rao c, Harman	b	Errington	..	18
Sidnigappal c. Kent	b	Bennett	...	6
Sivanna not out			...	4
		Extra	...	1
				93

NORTH MYSORE PLANTERS.

English c. Mylar Rao	b	Narayan Rao	...	5
Frend	b	,,	...	12
Errington	b	Venugopaul	...	39
Browne	b	Sreeram I,	...	62
Nixon	b	Krishna I,	...	41
Bennett c. Mylar Rao	b	Venugopaul	...	7
Allardyce c. b ,,	b	Narayan Rao	...	0
Harman st Sreeram I	b	,,	...	25
Kent c. Mylar Rao	b	Mohan Singh	...	0
Kirvan c Krishna I	b	Venugopal	...	12
Castel Nuevo not out			...	0
		Extras	...	4
				207

NOTES AND NEWS.

Hookworm.

The information we publish this week will serve as an answer to an enquiry we have received from a Coorg Planter on the subject.

Imperial Shipping Committee.

In the minutes of the Indian Tea Association General Committee Meeting of 14th September, published elsewhere in this issue, reference is made to the Government's press communique dated 3rd September 1920. intimating the manner in which suggestions or representations to the above Committee should be submitted. As the Communique is of general interest, we publish it *in extenso* this week.

Cotton Growing Mesopotamia.

In view of the present scarcity in the supply of cotton, the attempts now being made to establish cotton growing on a large scale in Mesopotamia are of particular interest. Cotton has been grown in Mesopotamia from very ancient times, and is still cultivated in small quantities by the Arabs in conjunction with food crops along the banks of both the Tigris and Euphrates. The fibre is used locally for spinning, and as a stuffing material for pillows and mattresses. The country possesses a soil and climate favourable to the production of large yields of excellent cotton, and in course of time it should add materially to the world's supply.

Since 1917 experiments have been conducted by an expert from the Indian Agricultural Service, with a view to discovering the most suitable kinds to grow, and the rerults of the work done in this connection, and the prospects of establishing a cotton growing industry are fully dealt with in the current number of the Bulletin of the Imperial Institute. So far, American types of cotton seem to be the most suitable for cultivation in Mesopotamia. The members of a deputation of the British Cotton Growing Association, which visited the country towards the end of last year, were very favourably impressed with its possibilities for cotton production.

The acreage which will eventually be planted with cotton in Mesopotamia will depend on the quantity of labour available and the area on which a perennial supply of water can be guaranteed. It seems likely that a total of 150,000 to 200,000 acres could be cultivated annually by the existing population if the necessary facilities, in regard to agricultural machinery, transport, etc., were provided. At a low estimate, this area should produce from 15 to 20 million pounds of cotton yearly.

What is wrong with Rubber.

So far as one can see and hear, the rubber industry has done better than most in its endeavours to keep its end up in spite of high costs, including those over which it has no control, such as transport, local and Government taxes, &c. But, for the various reasons outlined in the previous paragraphs, and especially the uncertainty with regard to labour and the inability or unwillingness of the authorities to treat all classes and all workers alike, everything has come or is coming to a standstill and, mule-like, refuses to budge. We need cotton for rubber tyres. Who is growing any? We need far more sugar to help sell our raw cacao. Except the Tata proposition in India, who is trying to remedy the position, except by talking, which only hinders? So it is with rubber. We want, at fair prices based on 1s. 9d. to 2s. per lb., rubber, thousands of bicycles and little "run-abouts" are on the streets now that the train and tram fares are so high. The latter, at least in the district where these notes are being written, are far worse than the increased railway fares. It is easy to realize, therefore, what a demand there would be for bicycles and popular-priced cars were such things procurable. Knowing, however, how restriction of output and the mania to keep prices above the purchasing power of all but profiteers and those paid by the hour are keeping down the demand for raw rubber on all sides, buyers are keeping aloof of the markets, and so the producers suffer, because the workers on this side are not "doing their bit" to help win the peace. Just when everyone was hoping to see two or three tons of rubber asked for in place of one, everything is as flat as a pancake because the price of motors and everything else is far too high. Taking advantage of of this, the trains and trams seize the opportunity to advance their rates. In pre-war days, incompetent managers had "the sack," now the sack is passed round to be filled by tax and ratepayers are who are forced to fill it instead of buying a motor cycle or even a push bike.—*Tropical Life.*

The Planter.

For some reason we were not favoured with the first copy of this F.M.S. publications which is the official journal of the Incorporated society of Planters. We have heard, however, on all sides what a great success the new venture, was and certainly the second number (September) is one of the best things we have seen in the way of a mental pabulum for planters. A similar publication for South India has been our dream for years but is out of the question in so small a community as ours with at most an acreage of 200 000 compared with six times that area in the F. M. S. and S. S. We were going to say that this publication would appeal mainly to Rubber planter but articles like that on the properties of the soil, the second of a series on "The principles of Agricultnre" should appeal to everyone. We strongly advise all planters to put up the requisite ten dollars (at present rates of exchange it is absurdly cheap) to secure regular deliveries of this journal, "The Planter" run by planters for planters. Subscriptions may be sent to the Secretary, the Incorporated Society of Planters, Kuala Lumpur F. M. S.

The Rubber Growers' Association and Restriction of Output.

A meeting of the local branch of the Rubber Growers' Association will be held at Cochin on October 5th to discuss the momentous question of restriction of output. Incidentally the local branch is minus an Executive Committee and the election of this body is also down on the Agenda.

GOVERNMENT OF INDIA.

DEPARTMENT OF COMMERCE.

Simla, the 3rd September, 1920.

PRESS COMMUNIQUE.

The following press notice, dated the 27th July, 1920, issued by the Chairman of the Imperial Shipping Committee, is published for general information:—

The Imperial Shipping Committee wish it to be known that they are now prepared to receive from persons and bodies, in any part of the British Empire, who are interested with regard to ocean freights, facilities and conditions in the Inter-Imperial Trade, suggestions or representations in regard to any matters included in the scope of their terms of reference, which are as follows, *viz* :—

i. To enquire into complaints from persons and bodies interested with regard to ocean freights facilities and conditions in the Inter-Imperial trade or questions of a similar nature referred to them by any of the nominating authorities, and to report their conclusions to the Governments concerned.

ii. To survey the facilities for maritime transport on such routes as appear to them to be necessary for trade within the Empire, and to make recommendations to the proper authority for the co-ordination and improvement of such facilities with regard to the type, size and speed of ships, depth of water in docks and channels, construction of harbour works and similar matters.

All communications should, in the first instance, be in writing and addressed to the Secretary, Imperial Shipping Committee, Board of Trade Offices, Great George Street, London, S.W. 1. It is requested that they may be sent in as soon as possible, and in any event so as to reach the Secretary not later than November 1st, 1920, except in the case of the more distant portions of the Empire (*i.e.*, other than in Europe, the Mediterranean or North America) communications from which should be received not later than January 1st, 1921.

C. A. INNES,

Secretary to the Government of India.

OUR SOUTH INDIAN PLANTER.

TO THE EDITOR OF THE " MADRAS TIMES."

Sir,—I read with interest your leader in the issue of the 14th.

It is a pity the South Indian Planter refuses to wake from his lethargy in these days of stress. I am certain he is the most backward and conservative of his species in the East. We hear wails of woe from all the planting Districts in S. India on the shortage of labour, and yet no effort, no combind effort which is the only sort of effort which will help us in this matter, is made to compete with the F. M. S. Malaya, Ceylon, etc, who are taking away the labour, our labour, from under our very noses. The S. Indian Planter is far too busy cutting his neighbour's throat to realise this. Not more than 25 per cent. of the planting community comprehend the gravity of the situation. Why is it that the Indian cooly in Ceylon is a far better specimen than his brother employed on S. Indian Estates? I wonder how many planters there are in S India who can answer this question correctly. What percentage of the planters in S. India realise the enormous difference in the conditions of labour in the low country between 1914 and the present day? In the Ceylon Labour Commission's Report, it is stated that the wages of manual labour have gone up 300 per cent. over pre-war rates. Compare this with the rise in wages of the South Indian Estate cooly, over 1914 rates. I doubt if any Estate can claim to have raised the wages more than 30 per cent., including all concessions ever 1914 rates. I do not agree with the statement that the wages of manual labour have gone up 300 per cent, over pre-war rates, as reported by the Ceylon Labour Commission and I think a very fair estimate would be 100 per cent. There is no doubt the agricultural labourer does earn as much as 300 per cent, over pre-war minimum rates during the crop seasons, but not throughout the year and it would be interesting to learn how the Commission arrived at their figure of 300 per cent. Concessions of the kind now admitted on most estates to coolies were brought into force purely as a war measure. The concessions should be abolished, and the sooner the planter sets down to the fact that wages have to go up at least 50 per cent, over pre-war rates the better. The cooly would prefer hard cash to these concessions, and I am certain he would realise it better. The piping pre-war days of peace and plenty—of labour—are gone never to return and we are now, up against something we have never struck before.

We are not going to get the cooly by paying our Kanganies a bigger rate of advance than our neighbour does—on the Q. T. By doing this we are only increasing the cooly's debt and in any case, what percentage of the advance money which we pay to the Kangany or Maistry actually gets to the Cooly's hands? How many planters make any effort to check this? The whole system is rotten and the object we should aim at is to make the " Totum " more attractive by offering better wages and conditions, to entice the cooly and to wean him from the clutches of the Kangany. Our wise neighbours in Ceylon are doing this.

Should this catch the eye of the Editor of the *Planters Chronicle*, would he be kind enough to publish it?

" P. D."

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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TEMPORARY OVER-PRODUCTION OF RUBBER.

The firms responsible for the sale of plantation rubber have been watching the continued fall in prices and the increases in stocks with feelings of profound anxiety. Owing to increases in managerial and coolie wages all over the east, the heavy loss on rice supplied to coolies, and the loss on exchange (particularly in Ceylon and the Netherlands Indies), the cost of production has been materially increased, and at present prices many estates must be producing at a very small profit, and in many cases at an actual loss. It is wellknown that the last quarter of the year is the highest producing period, and, if the normal rate of production is continued, there appears to be a certainty of a large unabsorbed surplus of rubber by the end of the current year.

The causes which have brought about the present position are known to our readers, as these have been discussed in our columns. The position may be briefly summarised as follows:—

Anticipating a large increase in the demand for tyres and other rubber goods, the American market bought heavily last autumn and in the early months of this year, and, as it turns out, the rubber mills have over-manu-

factured. Owing to transportation difficulties, the limitation of credits and labour troubles, the anticipated demand did not arise, and manufacturers now hold unusual stocks. We have had to report in recent numbers the curtailment of staff in American factories, and this rather points to the belief that further troubles are ahead. The position is much the same in this country. High taxation—especially the increase in E. P. D.—labour unrest, and other factors have created uncertainty and thereby limited development. It is unlikely that British manufacturers will take as much crude rubber in 1920 as they did in 1919, and the deficiency may reach, if it does not exceed, as much as 10,000 tons. Nor can it be said that the immediate prospects are encouraging. The increased tax on motor cars, which will come into operation on January 1st, 1921, and the high cost of motor spirit will rather reduce than increase the use of motor cars, and will curb development in motor traction.

The statistical position appears to be this. The production of plantation rubber under normal methods of tapping is estimated for 1920 at 337,000 tons. Brazil and other wild rubbers may be expected to produce 40,000 tons, giving a total of 377,000 tons, to which falls to be added the quantity afloat at the end of 1919, namely, 67,000 tons. The quantities afloat at the end of 1920 are estimated at 60,000 tons so that the quantity left for import into consuming countries during 1920 is 384,000 tons. Careful estimates have been made as to the quantities which will be taken by consuming countries out of the 384,000 tons which will be available. The estimate is 350,000 tons, which will leave an unabsorbed surplus of 34,000 tons at the end of December next. Our own impression is that this figures is too low, and that the unabsorbed surplus is more likely to be 40,000 tons. It should be observed that this estimated unabsorbed surplus represents accumulations of rubber in the producing countries, in addition to the stocks held by them at the end of December, 1919, but it does not include any stocks in the consuming countries; these are known to be large. Between December last year and the end of August of this year there has been an increase in stocks in this country alone of no less than 10,000 tons, the quantity now in stock being estimated at 33,200 tons.

The price of rubber has been falling heavily since the commencement of the current year, and there have been few upward markings on our monthly chart. As we write, fine pale crepe is about 8*d.* per lb. below last September's figure, and about 1*s.* 2*d*, below the opening prices of the present year. It should be remembered that all the produce of the plantations is not fine pale crepe or ribbed smoked sheet, an average of quite 20 per cent. of the output being represented by lower grades, and just now the poorest qualities are almost unsaleable. The position is one calling for immediate action on the part of producers, if a calamity is to be avoided.

On Monday afternoon it became known in the market that the Rubber Growers' Association has been giving the matter serious consideration, and had decided to resuscitate the Output Control Committee with instructions to lose no time in submitting a scheme for restriction of output. It appears to us that the position is now worse that it was in the early part of 1918, when the previous Restr ction Scheme was adopted by the Association. Then, about 70 per cent. of the acreage represented by the membership of the Association gave adhesion to the scheme. Not only the 30 per cent. of membership, but also the local companies in the East and the Dutch interests withheld support. The scheme was therefore only a partial success, but it eventually had a most beneficial effect upon the market. It was due to the 70 per cent of adherents that the plantation industry recovered its position so quickly, and experienced a fairly profitable year during 1919. It is not likely that those who made the sacrifice in 1918 will be again prepared to allow the outsiders to get out on their backs. It is hoped, however, that any new scheme for restriction of output suggested by the Council will, if it is reasonable, meet with greater success from outsiders than did the previous one. Entirely different conditions now prevail. As a result, as we think, of the previous restriction scheme, there are now a number of strong local Associations of producers in the East. The Rubber Producers' Association of Singapore is a strong body in good hands, and there was formed, in May of this year, a Chinese Planters' Association; quite a large area is Chinese owned. The serious position which has arisen appears to be realised in the East, as we have seen telegrams from prominent agents in Malaya urging restriction. The scheme to be submitted to the Council of the Association, with the extent of the restriction, is not yet known, but we understand that the proposal is to restrict output during the months of October, November and December, and to cont nue the restriction in a modified form during 1921, or until the present stocks are brought within reasonable limits. An exmination of the crop returns, for the month of August, indicates that very many of the larger producing companies have followed the advice of the Association in the adoption of alternate day tapping, to which we made reference in a recent number. Plant sanitation grounds were urged for the change, but it will have, for a time at least, an effect on crops, although not sufficiently to materially affect the position.

There can be no doubt that at present more rubber is being produced than can be used, but we regard this position as being temporary, and, with the resumption of normal conditions, we are of the opinion that the manufacturing industry can use all the rubber which can be produced from the present planted acreage, and in years to come will require more rubber than that acreage can yield. There is no occasion for panic. The plantation companies, whose directors were prudent enough to sell a fair proportion of their crop forward at the prices which prevailed early in the present year, have still a fair average price and a moderate profit. That profit will, however, certainly vanish if the normal course of production is continued in the next few months. The large unabsorbed surplus to which we have referred would be a menace in the market for many months to come, and would prevent a reasonable increase in price when demand approaches the usual. So far as we know the plantation industry, there is no idea of restricting output to the extent of forcing up prices to an unconscionable extent. As we have said, there is temporary over-production, and it is eminently desirable that this position should be faced, and the only possible remedy applied.—*India Rubber Journal.*

WYNAAD PLANTERS' ASSOCIATION.

Proceedings of an Extraordinary General Meeting, held at the Meppadi Club, on 22nd September, 1920.

PRESENT.—Messrs. E. E. Eyre, J. C. Blackham, S. H. Powell, B. D. Darkin, B. J. Blackett and J. A. Gwynne, Honorary Secretary.
Visitor:—C. R. Charsley.

Mr. Blackett in the Chair.

Proceedings of last meeting were taken as read.

The Delegates who attended the Annual Meeting of the U. P. A. S. I. submitted their report as follows:—

"Your delegates attended the U. P. A. S. I. Meeting in Bangalore, "from 23 to 27th August. The proceedings of the meetings have been "fully reported in the press, so this report will only touch on the subjects "on which you specially instructed us.

"LABOUR DEPARTMENT.—You will understand that, for obvious reasons, "the business under this head could only be discussed in committee, and "Mr. Eyre, who was elected on the committee appointed at the meeting to "consider the ways and means of recruiting in new districts, will explain to "you the arrangement agreed upon after this report has been read.

EXPORT DUTY ON TEA.—Your instructions on this matter were duly "given effect to, and it remains to be seen what the result of the resolution "passed will be.

"THE TEA CESS.—It was the unanimous opinion of the Meeting that "the Cess be increased from ½ to 1 pie per pound. The resolution passed "contained the stipulation that the Indian Tea Association be requested to "press upon the Government to impose a duty of 4 annas per pound on "foreign teas imported into India.

"RAILWAYS.—Colonel Barnardiston, who spoke on behalf of the "Madras Government, said he could see no chance whatever of the "Shoranur-Manantoddy line being constructed except by private enter-"prise, and, until the Railway Board issued new regulations or terms, no "Company was prepared to take up the work at 4 per cent.

"CO-OPERATIVE STORES.—As the suggestion to form a Planters' Co-"operative store emanated from this Association, we have to report that after "considerable discussion, the meeting agreed to leave the matter of flotation "of the Company in the hands of the Executive Committee.

"S. I. PLANTERS' WAR FUND.—We supported the proposition of the "Mundakayam Association regarding the disposal of the balance of the "fund, but the majority were of opinion that the balance should be appropri-"ated to the S. I. P. B. Fund.

"S. I. P. BENEVOLENT FUND.—It was unanimously agreed to increase "the Patrons donation from Rs. 200 to Rs. 1000.

"We shall be glad to answer any questions as fully as we can."

Mr. Eyre then explained the arrangement regarding the importation of Guntur Labour.

A vote of thanks was unanimously passed to the Delegates for their services.

LABOUR RULES.--It was proposed that under Rule 2, a standing Committee be appointed consisting of one representative from each Company in the district, and that this resolution be circulated and the members of the Committee be selected at the next Meeting.

ARRACK SHOPS IN MEPPADI.—The Honorary Secretary was instructed to write to the Collector in regard to the proposed closing by the Police of the arrack shops at 2 P. M., on Sundays.

RESTRICTION OF OUTPUT OF TEA.—The circular received from the Secretary, U. P. A. S. I., was recorded, and the meeting was of opinion that this was purely a matter for Agents of the Companies concerned.

ROADS.—The matter of the bad state of the road between Chundale and Kalpetta bazaars was brought to the notice of the Association, and it was resolved that the Honorary Secretary write to the P. W. D. and draw attention to the poor quality of work being done.

VISIT OF ACTING DEPUTY DIRECTOR OF AGRICULTURE.—It was agreed to hold the next meeting on the 13th or 14th October during the visit of the acting Deputy Director of Agriculture.

A vote of thanks to the Chair terminated the proceedings.

(Signed) BASIL J. BLACKETT,
Chairman.
(Signed) J. A. GWYNNE,
Honorary Secretary.

INDIAN TEA CESS.

In January last, the Indian Tea Cess Committee represented to the Government of India that, it was desirable to expand the propaganda work in connection with the consumption of tea in India, as well as in countries outside India, and enquired whether there would be any objection, from the point of view of the Government, to the rate of the cess levied under section 3 of the Indian Tea Cess Act (IX of 1903) being increased from $\frac{1}{4}$ pie per pound to a maximum of one pie per pound. In reply, the Government of India informed the Committee that they had no objection to the proposed increase of the cess, provided there was practical unanimity in its favour among the tea planters and those engaged in the tea trade, and they asked the committee to furnish them with the expressed approval of the various interests concerned in the proposal. The Committee have now intimated that the tea producing industry is unanimously in favour of the higher rate of cess. The Government of India, before recommending this proposal to His Majesty's Secretary of State, consider it desirable to publish the proposal for criticism, in the first instance. This resolution will, accordingly, be published in the *Gazette of India* before the 1st November, 1920.—*Madras Times.*

HIS EXCELLENCY THE GOVERNOR'S VISIT TO THE PLANTING DISTRICTS.

We have been favoured by the Private Secretary to His Excellency Lord Willingdon, with details of His Excellency's forthcoming visit to the Planting Districts. The interest which successive Governors of the Madras Presidency have taken in the Planting Industry has been much appreciated by the Community, and we feel sure that these visits of the heads of Government have led to a much finer appreciation in official circles of the difficulties surmounted, the conditions under which the planters have pioneered and opened up vast tracts of country, and of the problems which beset this body of men in their daily lives.

That His Excellency Lord Willingdon will receive a real planters' welcome wherever he may come in contact with them goes without saying; we trust he may bring away with him pleasant memories of the trip and a fuller knowledge of the planting districts, enabling him and his Government to understand and sympathize with our little foibles and our big problems.

As far as His Excellency's tour programme stands at the time of writing, the following are the particulars :—

13-10-1920. 8 a.m. Leave Ootacamund by motor.

„ 6 p.m. Arr. Valparai.

14-10-1920. Motor down to Murugalli, on the western edge of the district, in the morning, returning to the Club for lunch, to which all the district will be invited. After lunch, His Excellency will meet the Anamalai Planters' Association.

15-10-1920. Drive out to Mukkottumudi at the southwest corner of the district, see that part, lunch with Mr. Carless.

16-10-1920. Motor to Varattuparai, and from there His Excellency will go on down to Parambikulam.

His Excellency will stop with Mr. Congreve during his stay at Valparai.

19-10-1920. 6-15 p.m. Arr. Cochin.

22-10-1920. 7-30 a.m. Dep. „

„ 1-0 p.m. Arr. Kottayam.

„ 3 0 p.m. Dep. „ Visit Rubber Factory *en route.*

„ 7-0 p.m. Arr. Peermade.

23-10-1920. Visit to Periyar dam and back.

24-10-1920. 10-0 a.m. Dep. Peermade.

25-10-1920. 1-0 p.m. Arr. Trivandrum.

28-10-1920. 8-30 a.m. Dep. „

THE AUXILIARY FORCE.

Position of Ex-Officers.

A Press *Communique* says:—Numerous applications have already been received for enrolment in the Auxiliary, Officers Corps of the Auxiliary Force. It appears, however, from the many inquiries which have reached the military authorities that the main outlines of the Scheme are not fully understood in all quarters and that some further explanation is desirable. The formation of an Auxiliary Officers' Corps originated in the representation made by many members of the large body of ex-Officers who held temporary commissions during the war that, while they were ready and anxious to assist in the creation of an efficient Auxiliary Force they would, in most cases, owing to their numbers, find no place as officers in the Auxiliary Force, and that their military experience and value would, to a large extent be wasted in the ranks. It was urged, moreover, that it was not fair to treat the Ex-officers, who in numerous instances had been in command of companies or even Battalions, on a level with the recruit who had undergone no military training, and that some distinction should be made in favour of those who were permitted to retain their military ranks in recognition of their services. It was admitted that such distinction was neither necessary nor desired in certain units of which the composition was fairly homogenous, and that in the mounted corps for example, most ex-officers would elect to resume the places they had filled previously in the volunteer force.

Desire for special units.

The desire for the formation of special units composed of ex-officers was naturally enough more marked in the case of the large commercial centres. It was represented that such units, consisting of men who had undergone military training of the most practical kind for a long period, would not require any of the more elementary training necessary to render the rest of the Auxiliary Force fit for the performance of its normal duties, and that, further, it was desirable in the interest of the army to reserve and develop by a special form of training the military value of such persons as officers capable of being employed again with advantage in the event of a great emergency. In admitting the force of these contentions the military authorities have another object in view. Under the Indian Defence Force Act, no officer of the reserve was eligible for enrolment. Members of the Indian Defence Force joined the Indian Army Reserve of Officers in very large numbers, but on their release from Army Service, excepting those who previously held commissions in the Indian Defence Force; they found themselves excluded from units which existed for the purposes of local defence under the new Act. This anomaly is removed, and officers holding commissions in the reserve can join any unit of the Auxiliary Force. In that force they will retain their status as officers, and will be shown on the rolls as Reserve Officers of the unit, but in the Auxiliary Officers Corps they will be treated as other members of the Corps holding rank as officers.

I. A. R. O. Question Discussed.

The whole question of the reconstitution of the Indian Army Reserve of Officers is under consideration, and it is hoped that it will be possible to announce the new terms of service at an early date. The principle has been accepted that, in future, all officers of the reserve shall be required to undergo periodical training, and this training will be undergone in the Auxi-

liary Officers Corps in any year in which it is not undergone with a regular unit. This local training in the Auxiliary Forces Corps will be carried out either in local units of that Corps, or, by the attachment for training of members of the Corps to another unit of the Auxiliary Force. It follows, therefore, that all officers of the Reserves should join the Auxiliary Force, and all officers will either be included in the Auxiliary Officers Corps or else be borne on the strength of another unit of the Force at Reserve Officers. Where the latter are numerous, they will form sections or platoons of troops, as the case may be, the Reserve Officers' organization of the Auxiliary Force providing for attached sections of all descriptions. The formation of local units of the Auxiliary Officers' Corps depends on the members coming forward in any one area. Units can be formed of any size and arm, from a machine gun section or a light motor patrol, to a regiment of cavalry or a battalion of infantry. These will be constituted according to the wishes of those concerned so far as they coincide with military requirements. It is not intended to limit the admission to officers and ex-officers, as, in that case, the numbers would tend constantly to dwindle until the whole consisted of nothing but the Reserve Officers. Provision has been made for the admission, on probation, of suitable candidates, at the discretion of the Officer-Commanding a Unit of the Auxiliary Officers' Corps, and entrance will, therefore, not be restricted merely to those who desire to receive commissions in the Reserve Officers. Members of the Corps will be required to undergo annual training to an extent not exceeding ten days or 40 hours, and this training, which may be undergone either in camp or otherwise, will be so directed as to ensure that the unit is fitted for the efficient performance of its duties in the matter of local service, and also that the members receive collective and individual instruction in the duties of officers by means of staff rides, tactical exercises, lectures and short courses of instruction. This training, however, will be purely optional in the case of any member who, as an Officer of the Reserve, undergoes training in any year with a regular unit. Applications for admission to the Auxiliary Officers' Corps should be addressed to the General Officer Commanding the Brigade, or, to the headquarters of any unit of the Auxiliary Force situated within the military area in which the applicant resides.—*Madras Times*.

HOW PLANTS ABSORB THEIR FOOD.

We take the following paper, which was read by Alfred Vivian at the Middle West Fertility School, from a recent issue of the American Fertilizer :

"A marked difference between plants and animals is seen in the fact that the animal can, in most cases, seek its own food, because of its power to move freely from place to place. The plant, on the other hand, is limited in its ability to move, and consequently nature must provide some method of bringing the food to the plant. The process by which nature accomplishes this result is known as diffusion, and is most easily explained in the case of gases.

The physicists believe that all substances are composed of small particles called molecules, and that these molecules are in constant motion. In the case of gases this motion is so free that it is possible for the molecules of the gas to move to an indefinite distance in any direction. If, for instance, a small quantity of any gas were introduced into a large vessel, the gas would diffuse in all directions until it was evenly distributed throughout

the entire vessel, and it is also true that, if small quantities of several gases were introduced into the vessel, each one would diffuse independently of all the others until it was evenly distributed.

This diffusion takes place regardless of the weight of the molecule or of the attraction of gravity. If it were not for this power of the gases to diffuse, our atmosphere would consist of at least three layers of gases-carbon dioxide, the heaviest of the gases, forming the layer next to the earth, the second layer being composed of oxygen, and the third and thickest layer being composed of nitrogen. The diffusion of the gases, however, is so complete that our atmosphere is practically always uniform in composition.

How Plants Grow.

This matter of the diffusion of gases has an important bearing on plant nutrition. The leaves of the plant absorb carbon dioxide from the air, separate the carbon and use it in building up plant structure, and give off the oxygen into the atmosphere. It will readily be seen that the leaf would soon use all of the carbon dioxide in direct contact with its surface, and if it were not true that more carbon dioxide diffuses into the leaf and that the oxygen diffuses out into the atmosphere, the leaf would soon be suffering for need of further carbon. Nature seems always to be endeavouring to establish equilibrium, and, whenever this equilibrium is disturbed, diffusion rapidly takes place in the effort to restore it.

In the case of solid materials it is likewise supposed that the molecules are in constant motion, but that they cannot move beyond the confines of the solid mass. If, however, the solid is dissolved in water, the liquid forms a medium through which the molecules can diffuse. In this case the diffusion takes place much more slowly than it does in the case of gases, but the molecules of the solid continue to diffuse until they are evenly distributed throughout the liquid. Here, again, the molecules of each substance diffuse independently of all other substances, so that if there were several substances dissolved in water, each one would diffuse until it was evenly distributed throughout the liquid. If, now, a quantity of any one of these solid substances is removed from the solution at any given point, more of that particular substance would diffuse into this point, and the diffusion would continue until equilibrium was again restored.

The ability of the solid molecule to distribute itself through a liquid is of importance in maintaining the fertility of a soil. The soil consists of particles of rock of various size, each one of which is surrounded by a thin film of water. If a soluble substance is added to the soil, or if some material already in the soil is made soluble at a certain point, the tendency is for that substance to diffuse through the soil moisture, until it is evenly distributed throughout the soil. In this way it will be seen that when a soluble fertilizer is drilled into the soil, it does not necessarily remain in the particular place in which the drill deposits it, but that part of it, at least, distributes itself throughout the soil water for some distance from the point where it is applied. It will be seen that this property of diffusion is, therefore, important in aiding in the proper distribution of fertilizers or plant food.

Diffusion through Membranes.

Another interesting fact is that this diffusion of substances will also take place through certain membranes. If, for instance, a vessel is

divided into two parts by means of such a membrane as a piece of parchment paper or a piece of bladder, the solid substance and the water have the power of slowly diffusing through the membrane. When diffusion takes place through a membrane, it is customary to call it osmosis. In this case it is found that the molecule of water can pass through the membrane much more rapidly than can the molecule of the solid, probably due to the fact that the water molecule is smaller.

As a result of the fact that water passes through the membrane more rapidly, it will be seen that the side containing the largest amount of solid material will soon increase in volume, due to the movement of the water through from the other side of the membrane, and in this way considerable pressure is developed which is known as osmotic pressure. It will be seen that here, again, nature is trying to bring about equilibrium, and the rapid diffusion of water through the membrane and the slower movement of the solid through the membrane will continue until the same concentration of dissolved substances is found on both sides of the membrane.

If, now, in any way, either water or the solid substance is removed from one side of the membrane, active diffusion or osmosis again takes place in an effort to restore equilibrium. Let us now see what bearing this fact has upon plant nutrition. In the first place, it is well known that plants absorb very large amounts of water from the soil and give it off through the leaves, by the process known as transpiration. The amount of water transpired by plants is equal to from three hundred to five hundred times the weight of the dry matter of the plant.

If we were to examine carefully the growing point of a plant root, we would find that it is surrounded by a large number of what are known as root hairs. Under the microscope, these root hairs are seen to be minute bladders with very thin walls. These root hairs contain an amount of dissolved substance which makes the cell sap a more concentrated solution than the soil water, with the result that the water from the soil passes in by osmosis in the effort to bring about equilibrium between the interior and exterior solutions. The introduction of this water into the root hair makes its sap more dilute than that of the cell immediately above it, and consequently water then diffuses into the next cell. This process continues until the water reaches the leaf, where it is given off into the air through transpiration. The result is that equilibrium is never actually reached, and there is, therefore, a constant movement of water from the root hair to the leaf, as long as the plant is in a growing condition.

Osmosis in Plants.

In the case of the typical plant cell we have a cell wall composed of cellulose, which gives the strength to the plant. Immediately inside of the cell wall is the layer of protoplasm which serves as the membrane mentioned above. The result of the absorption of water is the development of a considerable internal pressure in the cell, which keeps the protoplasm pressed against the cell wall and gives the plant its turgidity.

The enormous pressure which may be developed through osmosis is shown by some experiments carried on with artificial cells where all conditions can be controlled, in which pressures were developed equivalent to

a column of water one hundred and ninety-five feet in height. There are a number of familiar examples of osmosis and osmotic pressure, well known to every house-wife. For instance, the wrinkled and shriveled prune, when placed in water, becomes plump, due to the fact that the dissolved substances in the prune cause water to pass in by osmosis, the skin in this case being a membrane, and sufficient osmotic pressure being developed to give turgidity to the fruit.

It occasionally happens that the soluble substances in the soil become so concentrated that the movement of water takes place from the plant into the soil, instead of in the opposite direction. In this case, so much water is taken from the plant that it loses its turgidity and is sometimes killed, due to the shrinking of the protoplasm, a process which is known as plasmolysis. On two or three occasions I have seen this happen in greenhouses, where too much fertilizer material had been used on the bench soil. This explains, also, why it is always advisable to avoid having very much soluble plant food in close contact with the seeds, and why very soluble fertilizers also prove injurious if they come in contact with the leaf while it is moist from dew.

The absorption of solid substances.

The same general principles are involved in the absorption of the soil substances by the plant. The soluble material in the soil will pass by osmosis into the root hairs, and if none of it went further the osmosis would continue until the equilibrium had been established for each soluble substance in the soil water, and in the cell sap. But as soon as the sap in the root air becomes more concentrated, these mineral substances will diffuse into the next cell, and this process will continue from cell to cell in the effort to establish equilibrium throughout the entire plant. The plant will use some of this material to build up new tissue, and this process, of course, removes the substance from solution and tends to destroy equilibrium.

It will be seen from this fact that those substances, which are used in the greatest quantity by the plant will, therefore, pass into the plant in the greatest quantity, due to this law of diffusion or osmosis. If there are any substances dissolved in the soil water which the plant does not use, the diffusion of that material will soon cease, because equilibrium for that substance will be produced. Apparently the plant has no power to reject substances which are dissolved in the soil-water, since it absorbs soluble poisons as rapidly as it does the valuable plant food. While these statements show, in a general way, how the plant obtains its water and the other elements of plant food, the matter is not so simple as might be inferred from this description. There are, for instance, solids dissolved in the cell sap which do not diffuse through a membrane, and yet have the power of developing osmotic pressure. This is an additional reason why the plant never reaches equilibrium so far as water is concerned.

Again, it is known that there are selective membranes which will permit some substances to pass through, while others cannot do so. The sugar beet, for instance, has such a selective membrane, and the sugar which is formed inside the cell cannot diffuse out. It will be seen that this is a wise provision of nature, since otherwise the sugar in the beet might all diffuse into the soil water during the winter season.

This talk no more than hits what might be called the high points concerning the manner in which the plant is able to obtain its plant food. No one believes that the whole truth about the matter has yet been discovered, and many of our most eminent chemists and plant physiologists are now devoting a large part of their time to a study of the relation of diffusion osmosis and osmotic pressure to plant growth."

THE RUBBER GROWERS' ASSOCIATION.

SOUTH INDIAN BRANCH.

A Meeting of the above was held at Cochin, on Tuesday; 5th October, at 10 a. m.

PRESENT.—Mr. A. H. Mead, Chairman, the Hon'ble Mr. J. A. Richardson, Planting Member, Messrs. H. N. Cobban, (Messrs. Peirce Leslie & Co.), T. W. H. Fitchett, G. R. Hake, (Messrs. Stanes & Co.), E. Hall, L. A. Lampard (Messrs. Harrisons & Crosfield), G. L. Martin, (Messrs. Aspinwall & Co.) H. R. Barson Parker, M. F. Shore, H. J. Walmesley and H. Waddington, Secretary.

The Secretary read the notice calling the Meeting.

The proceedings of the last Meeting were taken as read and confirmed.

The Chairman then addressed the meeting as follows:—

Gentlemen,—This meeting has been called to consider a cable received from the Rubber Growers' Association, London, advising that all estates should restrict their output from the 1st October by 25%. I see from a cable dated 24th September that the date now mentioned is November 1st. I also see that they have succeeded in securing the co-operation of between 70 and 80% of the British Companies. I cannot say how relieved I am to have this assurance, because, gentlemen, if 80% of a community come into line, I have little doubt that the 20% of waverers will follow suit. We shall then have, for the first time, co-operation among planters. Once co-operation has been obtained, its advantages are bound to be appreciated, and we shall not readily go back to the old state af mutual mistrust.

The Tea Market should give Rubber Growers plenty of food for thought, and should teach them that over production means simply the ruin of an industry. If the Tea Industry is to save itself, it can only be by adopting the same policy of restriction of output.

We have received several suggestion, that, owing to short tapping season and small yields, South India should have preferential treatment. This meeting can discuss this and put forward any counter proposal it thinks fit, but I earnestly suggest that the meeting will agree to abide by the decision of the parent body.

Among the large number of replies received to the preliminary circular sent members, we have received only two definite refusals to co-operate, one from Messrs Cumberbatch & Company, of Colombo, in respect to the "Cochin" and "Periyar" Rubber Companies, and the other from Capt. Windle, of the "Glenburn" Estate.

The Secretary read the cable received from London and the circulars issued by him and by the Chairman, and replies received thereto, and placed on the table reports received through the press of the views held on the question in Ceylon, Malaya, Burmah & London.

The Hon'ble Mr. J. A. Richardson read th following, letter which he had been asked to place before the meeting from Mr. J. J. Murphy :—

> "I shall be obliged if you will inform the R. G. A. meeting that "I am prepared to restrict Yendayar Rubber crop to whatever "limit may be decided on. I think that S. India, on account "of its low yield, has a good case for special treatment, and "should not be asked to reduce crop to less than 225 lbs. per "acre, but it will be better, if Ceylon and the Straits will not "agree to give us special treatment, to reduce our crops by 20%, "rather than have no restriction at all."

Mr. T. W. H. Fitchett objected to the principle of restriction on a percentage basis, and pointed out that, even if in Ceylon and Malaya output were reduced by 25%, estates there would still yield more per acre than had so far been obtained in Southern India, and that Ceylon and Malaya would still obtain paying crops from their estates, whereas such a reduction in Southern India must mean, on some areas, working at a loss.

The Chairman said he could not agree with Mr. Fitchett's point of view. They should consider the question from the standpoint of the planters in Malaya and Ceylon. Whereas a reduction of crop by 25% in Southern India might mean a restriction of 50 lbs. per acre, in their case it might mean 150 lbs. per acre.

The Secretary suggested that they might now come to an agreement as to the steps to be taken for the immediate future and leave the matter of next year for decision after consultation with the R. G. A. London.

The Hon'ble Mr. Richardson thought that they should send representatives to place the position of South India clearly before the parent Association.

Mr. L. A. Lampard pointed out that the difficulty, as to coming to an arrangement as to the immediate future, was that they were not dealing with a full twelve months, but with two of the heaviest yielding months of the year, and that a reduction of 25% in those two months would represent much more than an average 25% if taken over the whole season. He thought that a fairer basis would be to reduce output from twelve years old rubber to, say, 250 lbs. and to some lower figure for younger rubber. At the same time, whatever restriction was agreed upon, it should be left to individual decision as to how it was carried out, as long as the total reduction agreed to was made it should be open to anyone to make it by throwing areas completely out of tapping, or reducing output on certain fields as he thought best.

The Chairman agreed with Mr. Lampard, and said that by leaving 25% of an estate entirely untapped it would be possible, while reducing the output, to obtain crop from the rest of an estate at practically the same cost as hitherto. But whatever agreement they now came to he thought they should devise some system of check, to prove that itwas being carried out.

After considerable further discussion, the following resolutions were put and carried *nem con*.

Proposed by the Hon'ble Mr. J. A. Richardson and seconded by Mr. T. W. H. Fitchett :—

That this Meeting is of opinion that some form of restriction of Rubber Crops is absolutely necessary, but, before accepting the Rubber Growers' Association suggestions of a 25 per cent. reduction in 1920, and a 20% reduction in 1921, we should ask that some form of preferential treatment be accorded to Southern India on account of short season and small yields and ask the South Indian Association in London to represent our case to the Rubber Growers' Association for their final decision.

Proposed by the Hon'ble Mr. J. A. Richardson and seconded by Mr. H. J. Walmesley :—

That this Meeting recommends that Estates restrict November and December crops by 25% and January and February crops by 20% of the estimated out-put, in accordance with the Rubber Growers' Association's proposal, but, as regards next tapping season, we put in a plea for preferential treatment on account of our short tapping season and the small yields in Southern India.

Proposed by Mr. L. A. Lampard and seconded by Mr. T. W. H. Fitchett :—

That the Secretaries of District Rubber Associations obtain official estimates of the November to February crops, and returns of the actual monthly amounts harvested, and forward them to the Secretary of the Rubber Growers' Association, South Indian Branch, who shall treat them as confidential.

RUBBER MYCOLOGIST FOR MUNDAKAYAM EXPERIMENTAL STATION.—The Secretary read letter and enclosures received from the Secretary to Government, Revenue Special Department, with reference to engaging the service of Mr. Ashplant for the post as Rubber Mycologist, and his reply asking that he be engaged as early as possible.

The Secretary's reply was approved and confirmed.

ELECTION OF OFFICE BEARERS:—The following gentlemen were elected by ballot to serve on the Executive Committee : —

Messrs. E. Lord

„ J. R. Vincent

„ R. Lescher

With a vote of thanks to the Members of the Cochin Club for the use of their room, and to the Chairman, the proceedings terminated.

H. WADDINGTON,
Secretary.

A. H. MEAD,
Chairman.

RUBBER TRADE ASSOCIATION OF LONDON.

Monthly Statistics.

AUGUST, 1920.

Movements of all kinds of Rubber to and from the United Kingdom as per BOARD OF TRADE RETURNS.

IMPORTS.

From	July.			7 Months ended July.		
	1920	1919	1913	1920	1919	1913
Straits Settlements and F. M. S. ...	5,664	3,806	1,712	32,314	34,669	13,471
Ceylon and British India ...	1,875	854	411	14,586	13,509	3,564
Dutch East Indies, &c.	731	1,398	133	6,347	7,057	754
Brazil and Peru	1,072	191	877	5,993	6,323	12,106
Other Countries	234	221	1,741	1,940	2,259	11,466
Total Tons ...	9,576	6,470	4,874	61,180	63,817	41,361

EXPORTS.

To	July.			7 Months ended July.		
	1920.	1919.	1913.	1920.	1919.	1913.
United States of America ...	1,096	467	1,421	23,377	8,832	9,325
Canada ...	98	236	33	2,508	685	292
France ...	1,196	341	391	9,188	6,874	2,800
Belgium ...	169	345	143	1,755	1,492	1,134
Italy ...	180	182	10	2,103	3,315	129
Spain ...	23	20	12	124	162	48
Germany, Austria, Hungary ...	384	48	698	2,672	149	6,384
Russia ...	...	10	392	26	68	3,931
Sweeden, Norway and Denmark...	99	255	54	743	1,614	440
Other Countries in Europe ...	20	217	62	477	942	735
Other Extra European Countries.	186	53	55	732	282	445
Total Tons ...	3,451	2,174	3,271	43,705	24,415	25,663

LANDINGS, DELIVERIES and STOCKS in London and Liverpool as returned by the Warehouses and Wharves during the month of July.

		Landed for July.	Delivered for July.	Stocks 30th July. 1920.	1919.	1918.
LONDON ...	Plantation ..	6,028	3,171	24,806	27,302	14,408
	Other Grades ...	18	46	540	587	331
LIVERPOOL...	Plantation ...	35†	61†	926†	2,997†	2,021†
	Para & Peruvian	785	890	1,025	1,184	342
	Other Grades ...	...	...	447	428	564
Totals London & Liverpool ...		6,866	4,168	27,744	32,498	17,666

† Official Returns from the five recognised Public Warehouses.

Movements of all kinds of Rubber, excluding Gutta, Balata and Guayule, to and from the U. S. A., AS PER RETURNS OF THE UNITED STATES DEPARTMENT OF COMMERCE.

	May. 1920.	1919.	1918.	5 Months ended May. 1920.	1919.	1918.
IMPORTS ...	19,687	24,767	21,968	146,423	106,442	73,609
EXPORTS ...	245	168	403	1,187	762	2,046

RECEIPTS AT PARA.

	July. 1920	1919	1918	July/June (The Crop Year). 1919/20	1918/19	1917/18
Rubber ...	1,180*	1,200	440	26,550	24,463	25,404
Caucho ...	330*	350	140	7,360	6,642	9,491
Total ..	1,510	1,550	580	33,910	31,105	34,895

* Estimated.

NOTES AND NEWS.

The U. P. A. S. I Gazette.

At an Extraordinary General Meeting of the South Mysore Association, held on 30th September last, Capt. A. L. Hill, M. C., O. B. E., of Holalu Estate, Belagodu P. O., Hassan District, was appointed Honorary Secretary and was also elected to take the place of the late Mr. C. J. Hayward on the General Committee of the U. P. A. S. I.

Ceylon Tea.

According to the Ceylon Chamber of Commerce Weekly Price Current dated 30th August 1920, 6th September and 13th September 1920, the following amounts of Ceylon Tea were exported by rail *via* Talaimannar to South India:—

	lbs.
Adirampatanam	20
Tinnevelly	520
Trichinopoly	290
Tanjore	216
Ayyampet	1,124
Alleppey	3,742
Cannanore	3,000
Mangalore	1,750
Madura	300
Kumbakonam	1,000
Ramanad	180
Total...	12,142

Root Nodule Organisms.

This subject is studied by N. V. Joshi, First Assistant to the Imperial Agricultural Bacteriologist in Vol. 1, No. 9 of the Bacteriological series of the Memoirs of the Department of Agriculture, in India. It is a subject which has often enough attained prominence in the Planters' Chronicle of the past, and we earnestly recommend our readers to procure this further valuable addition to the existing literature on the root nodule organisms of the leguminous plants. The memoir may be obtained from the usual agents for the sale of Government publications. Price Re. 1-4-0.

The Book of Proceedings.—1920.

There has been such an enormous demand for this book that it is now out of print, and the Secretary, U. P. A. S. I. has been obliged, very regretfully, to refuse several orders. A large number were sent out to Honorary Secretaries, and if these have not all been disposed of, the Secretary would be glad to have the unsold balance returned to him.

The Rubber Restriction.

We had intended dealing with this matter editorially ourselves this week. There is so much to say on the subject, for and against, as almost to warrant a series of articles, which would include also the proposed Tea Restrictions. Meanwhile, we publish as a leader the views of the *India Rubber Journal* of 11th September, 1920.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

New Auxiliary Force.

Dear Sir,—Major R. Panton Well's letter, in your last issue, hits the right nail on the head, although it is partially answered by the paragraph on the preceding page *re* Special I. A. Order.

Ex-active service officers and men will object to be officered and N. C. O'd by men, who, for reasons good or otherwise, have seen no service during the "Great War."

Another thing—Are those who slipped through the mesh before, going to be allowed to do so again. The Authorities made a big mistake in not having compulsion in 1914, are they going to make the same mistake again?

Yours faithfully,

"CORDRAN DETONANT."

THE SALVATION ARMY.

Trade and Industries Settlement Products.
Boots, Shoes, Sandals. Solid Leather.
Any Style to measure, Hand made.
Towels Every description. Sheets. Serviettes. Lace. Silk.
Our famous Sanis Serge, Pure Wool, Navy Blue,
Grey, Khaki unequalled in price or quality.

Estimates given for large quantities. Samples and Prices

Write the Secretary, Trades and Industries Headquarters, The Broadway, Madras.

FOR SALE,

For fresh Vegetable and Flower Seeds Economic and Ornamental Plants.

Cpply—CURATOR,
Government Botanic Gardens,
OOTACAMUND.

WANTED.

Planter of thorough experience requires billet as Superintendent of Tea, Rubber or Coffee Estate, has excellent testimonials and references.

No. 105,
c/o "Planters' Chronicle."

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 8TH OCTOBER, 1920.

122s /- per cwt. Market Quiet.

THE RUBBER GROWERS' ASSOCIATION.

(INCORPORATED.)

At a Special Meeting of the Council of this Association, held on 22nd September, 1920, it was unanimously resolved to forward the following summary of the present position of the Plantation Rubber Industry, together with their recommendations for meeting that position, to all Members of the Association and to all kindred associations and plantation owners:—

TO ALL PRODUCERS OF PLANTATION RUBBER.

Dear Sir (s),—The rapid decline in the price of rubber, to a figure which is very near the average cost of production, has been receiving the close attention of the Council.

Whereas at the end of 1919 the Rubber-goods manufacturers of the United States of America, who take about 70 per cent. of the rubber produced, anticipated great expansion in their turnover, and were seriously concerned as to whether their prospective requirements of rubber could be satisfied ; events which are part of the aftermath of the war have altogether upset these anticipations.

In March and April drastic steps were taken by the leading Banking Institutions of the world to put a check on the enormous inflation, which had reached a dangerous height at the end of 1919, and deflation has been in progress during the past six months in all sections of the economic structure.

Labour troubles have been widely operative. The railroad system of the U. S. A. has been in a disorganised state, and the movement of freight has been extremely slow and uncertain, necessitating the locking up of an exceptionally large amount of capital in the handling of their vast cereal and other crops.

In consequence of the financial stringency, which has become more acute with each succeeding week, the Rubber Industry has been faced with the unusual phenomenon of large resales of raw rubber by U. S. A. manufacturers. Their resources are otherwise engaged in completion of extensions to the r plant and the carrying of stocks of finished goods, the demand for which has been checked by the prevailing uncertainty.

A considerable part of Europe is still in the throes of war, and in other parts the adverse exchanges are paralysing imports and delaying reconstruction.

A careful study of the imports of rubber during the first half of 1920. and of the present tendency of trade would indicate that the imports of rubber to be taken by consuming countries during the year 1920 will not exceed their imports during 1919, viz., 350 000 tons. If production continues at the present rates, there will be a surplus of anything from 35,000 to 40,000 tons of rubber to be taken care of at the end of 1920, and, unless world conditions materially alter for the better within a few months, this surplus will be further augmented during 1921. As is inevitable when supply exceeds demand, prices have fallen with extraordinary rapidity, and the margin of profit is approaching vanishing point.

If the production of plantation rubber were in a few hands, it would be a simple matter to adjust supplies to suit any alteration in the demand. Within reasonable limits, the whole organisation of the estates lends itself to such adjustment, for the trees improve by being rested from tapping. The difficulty lies in the fact that there are so many separate proprietors controlling the three million acres which are under cultivation.

The Members of the R. G. A. represent about one-third of the total, and the Industry, as a whole, undoubtedly does look to the Council of this Association to give a definite lead in all matters of importance affecting the general welfare.

If producers take united action for the common good, to tide over the present difficult period in the life of the world, there is no occasion why any single one should suffer any permanent loss of the capital he has adventured.

At the end of 1917, when the shipping situation was most critical, a scheme of voluntary restriction of output was advocated by the Council, and proved to be most beneficial to those who held their rubber until the restriction had time to make itself felt. Although only 75 per cent of the acreage owned by Members came into that scheme, the moral effect extended to a much larger acreage.

With a view to making a definite proposal to the Members of the R.G.A. and to the Rubber Growing Industry at large, framed to relieve the position at present existing, the Council have been in telegraphic communication with the principal associations in Malaya, Ceylon, India and Burma, and with the International Rubber Growers' Association at The Hague, which ilatter is thoroughly representative of the principal rubber-growing interests n the Netherlands East Indies.

From the replies received, it is clear that, with the exception of Burma, where there is only a small acreage planted, the necessity for the reduction of output is appreciated, and that the Councils of these Associations are prepared to recommend to their members measures to effect the desired reduction. Your Council, therefore, unhesitatingly recommend that a genuine reduction of 25 per cent. of the estimated normal monthly output should forthwith be brought about by each Estate, by modification of its existing tapping system.

NOTE.—It is suggested that—

(1) Estates which are now tapping daily should give effect to the reduction of output by resting one quarter of their tapping area, or, preferably, adopting alternate day tapping without increasing the length or number of cuts, over one-half of their tapping area. For reasons set out in the R. G. A. circular of 9th July, 1920, the wisdom of adopting alternate day tapping will be appreciated, as being the better of these alternatives.

(2) Estates which have tapped alternate daily during the last two years should give effect to the reduction of output by resting one quarter of their tapping areas.

These suggestions do not preclude the adoption of any other system of effecting the reduction of 25 per cent.

It is intended that restriction shall remain in force, on this basis, until the economic position justifies its modification.

It is most desirable that the reduction of output should be practically unanimous, but it is essential that action be taken promptly, in order to make it really effective.

Safeguards have been provided in the form of assent which members are asked to sign, which will release them from their Agreement should restriction not receive sufficient support to justify its continuauce as a binding arrangement.

The Council have no power to coerce, but they believe that there is an overwhelming preponderance of opinion in favour of the policy which they now recommend, and they most strongly urge its immediate adoption. Statistical information bearing on the subject is attached, and the secretary will be pleased to furnish members and others interested with such further information as they may require.

A Form of Assent is appended, which should be returned to the Association in the accompanying envelope at the earliest possible date. The low level of price now ruling for the commodity is the strongest possible argument for prompt action, and it is urged that special meetings of Boards of Directors be called, for the purpose of coming to an immediate decision in this matter.

Yours faithfully,

FRANK G. SMITH,
Secretary.

Enclosure to Circular from Rubber Growers' Association.

September, 1920.

(1). RUBBER DISTRIBUTION—1920.

	Tons.	Tons.	Tons.
AFLOAT, 31/12/19 ...			67,000
PRODUCTION, 1920—			
PLANTATION —			
Malaya	195,000		
Dutch East Indies ...	85,000		
Ceylon	42,000		
India (including Burma) ...	7,000		
Borneo, Sarawak, Siam, etc. ...	8,000		
		337,000	
Brazil		33,000	
Other Wild Rubber		7,000	
		377,000	
Total ...		444,000	
Deduct—Quantities Afloat at 31/12/20, estimated at			60,000
Leaving for Imports during 1920...			384,000

IMPORTS, 1920—

Of the 1920 Imports the estimated quantities for the Consuming Countries are:—

	Tons.	Tons.
United States	250,000 to 260,000	
Canada	12,000	
Great Britain	30,000	
France	14,000	
Japan	5,000	
Germany	7,000	
Italy	7,000	
Holland	4,000	
Australia	3,000	
Belgium	3,000	
Scandinavia	2,000	
Other Countries	3,000	
		350,000
Leaving an unabsorbed surplus of...		34,000

This unabsorbed surplus represents accumulations of rubber in the producing countries in addition to the stocks held by them at the 31st December, 1919. It does not include any stocks in the consuming countries.

U. K. Deliveries to Manufacturers and Stocks in Wharves and Warehouses for each month during 1920.

Month.	Deliveries during the month.	Stocks at the end of the month.
	Tons.	Tons.
December, 1919	...	23,200
January, 1920	960	21,700
February do	5,700	20,300
March do	930 (*a*)	21,500
April do	1,470	22,600
May do	1,020 (*a*)	23,800
June do	3,290	25,100
July do	3,450	27,700
August do	1,926	33,200

(*a*) During March and May manufacturers appear to have re-sold part of their Stocks.

	Tons.
Increase in Stocks, January, August (inclusive) ...	10,800
Total Deliveries to manufacturers, January, August (inclusive)	14,946
Total Deliveries to manufacturers *during* 1919 ...	35,300

(2) THE EFFECT OF 1918 RESTRICTION OF OUTPUT.

1918.	Output, 1917.	Output, 1918.	Estimated output with no restriction, 1918.	Loss of Rubber in 1918 owing to restriction.
	Tons.	Tons.	Tons.	Tons.
Malaya ...	130,000	133,000	156,000	23,000
D. E. I. ...	48,000	58,000	62,000	4,000
Ceylon ...	32,000	28,000	35,000	7,000
India, Borneo, etc....	...	...	...	1,000
				35,000

(3). PRODUCTION AND EXPORT OF RUBBER, 1919.

Country.	Production.	Export.
	Tons.	Tons.
Malaya	177,000	204,100
Dutch East Indies	76,000	89,000
Ceylon	38,000	44,800
India	5,000	5,800
Borneo, Siam, Sarawak, etc. ...	6,000	7,500
Total ...	302,000	351,200

Accumulations from 1918 exported 49,200.

FORM OF ASSENT.

TO THE COUNCIL OF
THE RUBBER GROWERS' ASSOCIATION
(INCORPORATED).

In compliance with the Circular from the Rubber Growers' Association (Incorporated), dated 24th September, 1920, I/we agree to reduce my our production of Rubber as from 1st November, 1920, in accordance with the terms of the said Circular, provided that this agreement shall cease to be binding unless prior to 31st October, 1920, I/we have been notified in writing that you are satisfied that Members owning or controlling not less than 70 per cent. of the producing area represented by the Members of this Association have similarly agreed, and it shall cease to be binding if in your opinion the policy of restriction is not adhered to by an adequate proportion of producers outside this Association.

For and on behalf of.....

.....

Date.....

Total Planted area.....acres.

Acreage in Bearing.....acres.

ELECTION OF THE PLANTING MEMBER.

NOTICE.

MADRAS LEGISLATIVE COUNCIL.

PLANTERS' CONSTITUENCY.

Number of persons to be elected .. .. One (1)

All nominations of candidates for the appointment must reach the Returning Officer (The Secretary of the United Planters' Association of Southern India, Coimbatore) by 2 o'clock of the afternoon of the *25th October*, 1920.

Immediately after which hour the Returning Officer will allow every candidate, his election agent, his proposer and seconder to examine all nomination papers which have been received.

The Returning Officer will decide all objections which may be made, and make up a list of valid nominations and publish it on the notice board of his office.

In the event of more than one valid nomination being received, voting papers will be issued and should be returned to him not later than 30th November, the date of polling being fixed for the *1st December*, 1920.

Nomination of candidates must be in prescribed form which can be obtained from the Returning Officer, any District Collector or the Commissioner, Madras Municipality.

(1)	Date and hour on which nominations must be presented to the Returning Officer	2 p.m. 25th October.
(2)	Date on which preliminary list of nominations will be published ...	25th October.
(3)	Date and hour on which nomination papers will be taken up for scrutiny...	2 p.m. 25th October.
(4)	Date on which final list of valid nominations will be published ...	25th October.
(5)	Date of polling	1st December.

H. WADDINGTON,
Returning Officer.

SOUTH MYSORE PLANTERS' ASSOCIATION.

Proceedings of an Extraordinary General Meeting, held at the Munzerabad Club, Saklaspur, on Thursday, 30th September, 1920.

PRESENT.—Col. W. L. Crawford, D.S.O., V.D. (President), Messrs. T. Anderson (Acting Honorary Secretary), C. C. Couchman, A. L. Hill, E. W. Rutherford, W. F. Scholfield, P. M. Wilkins and E. H. Young.

In the absence of the President, Mr. P. M. Wilkins was elected Chairman for the meeting.

The notice calling the meeting was read, and the Minutes of the two previous meetings confirmed.

1. A vote of condolence with Mrs. C. J. Hayward and family was carried, all present standing.

A letter of condolence from the Billigirirangan's Planters' Committee was read.

2. Election of an Honorary Secretary. Proposed by Mr. T. Anderson and seconded by Mr. P. M. Wilkins, Mr. A. L. Hill was elected to succeed the late Mr. C. J. Hayward.

At this point the President arrived, and apologising for his lateness, which was due to a motor break down, asked leave to re-open the subject of the late Mr. C. J. Hayward, and requested the officiating chairman to continue to preside over the meeting, as it had already proceeded so far. Col. Crawford said :—

> "I rise with feelings of deep regret and sorrow, which I know you all share with me, to move a vote of condolence with the family of the late Mr. C. J. Hayward, whose untimely death we all so deplore."
>
> "The late Mr. Hayward was the Honorary Secretary of this Association up to the time of his death, and he gave very generously of his time and leisure to forward its interests, and I feel it is no exaggeration to say, in him we have lost one of the very best Honorary Secretaries that the Association has had during all its long existence."
>
> "We have all lost a good friend and neighbour, and the planting community generally has to deplore the passing away at so early an age of one of their number who was a general favourite, and a man who always upheld the best traditions of the Englishman in India."
>
> "We all offer Mrs. Hayward and her family our deep sympathy in their sorrow and irreparable loss."

3. Three copies of the "Memorandum of Association" were signed and witnessed.

4. The report of the Delegates to the U. P. A. S. I. Annual General Meeting at Bangalore was read.

Colonel Crawford spoke as follows on the subject of labour :—

> "On all sides I hear complaints of the shortage of labour in Mysore which I attribute almost entirely to the dead set now being made by a number of Planting Districts that did not, up till very recently, recruit in South Canara, doing so now."

"I personally consider the matter a grave one, as without a doubt others are unduly encroaching on the area from which about 70% of our labour comes."

"The recent wholesale scramble to recruit coolies in South Canara, by about a dozen different planting districts, is very rapidly demoralizing the labour and maistries, and making it most difficult for members of this Association to retain the labour that has been coming into the district for years."

"I hold the opinion that this sort of thing is bound to react on all the Associations, as we are not going to sit down quietly and let others take our old labour without a fight to retain it, I think you will agree with me that we are prepared to give equal rates of pay, and just as large advances as our competitors."

"It is quite well known that the labour in South Canara is extremely limited, and actually insufficient for the Districts it has been in the habit of going to. This being so, I confess we seem to be between the devil and the deep sea, on the one hand we are taxing ourselves to maintain the Labour Department, and on the other we see and hear of far distant districts swarming into South Canara, and, doubtless with the assistance of the Department, trying to divide amongst nearly a dozen districts the labour that is insufficient for those districts that have been recruiting there for the past 30 or 40 years."

"The matter is, I admit, a very difficult one, but it should not be insurmountable, and I would suggest our Association, in co-operation with the North Mysore and Bababuddin Associations, get out some suggestions or, if possible, a scheme to in some measure safeguard our interests in South Canara."

"I believe I am correct in saying when the Labour Department was being started there was a definite assurance given that, as far as possible, well established recruiting areas joining old established Planting Districts would not be encroached upon by other Districts unless there was a surplus of labour there."

"I am aware it is quite hopeless to ask that an assurance of the kind be kept, but I do hold the demoralization of both coolies and Maistries now permitted should be put a stop to."

"Personally I have enough labour for my requirements, and I hope that happy state will continue."

The following resolution, proposed by Col. Crawford and seconded by Mr. P. M. Wilkins, was carried unanimously :—

"That this Association, in co-operation with the other Mysore Associations and the Coorg Planters' Association, formulate a scheme to safeguard, in some measure, our labour interests in South Canara."

5. Election of a Representative to serve on the U. P. A. S. I. General Committee :—Mr. A. L. Hill was elected to succeed the late Mr. C. J. Hayward.

The meeting closed with a vote of thanks to the U. P. A. S. I. General Meeting Delegates, the Chair and the Acting Hon. Secretary.

(Signed) A. L. HILL,
Honorary Secretary.

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, on Tuesday, 28th September, 1920.

PROCEEDINGS.—The proceedings of the last meeting of the Committee on 14th September, 1920 were confirmed after previous approval in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON).—Letters dated 26th August and 2nd September, 1920, from the Indian Tea Association (London, which had been circulated, were now to be recorded. The principal subjects dealt with were :—

(*a*) *Regulation of shipments of tea from India.*—These letters dealt with the position prior to the despatch of the London Association's cable of 6th September, which was reproduced in the proceedings of last meeting. As a result of the discussion with representatives of the Calcutta Liners Conference at that meeting, it had been arranged for the Conference to wire the proposals to the London Conference, and advise the Association of the result. No reply had been received prior to the meeting under record, and, as the proposal was for shipments to be restricted for the three months commencing 1st October, 1920, it was now decided to ask the Calcutta Liners Conference for an immediate reply in the matter.

(*b*) *Food Controller: Extra farthing per lb. for cost of production in* 1918.— With the letter of 2nd September, particulars were given of correspondence which had been exchanged between the London Association's solicitors, and the Ministry of Food, on this question. From these papers it appeared that the point at issue was still obscure. Indian controlled concerns were due payment in rupees calculated at 1s. 4d. according to contract. An extra farthing was conceded on account of increased costs in 1918 and, in connection with this concession, the Committee contended that sterling companies would receive one farthing per lb. while Indian controlled concerns would be given. 25 of an anna or, in other words, 3 pies per lb. Moreover it was understood that the Tea Commissioner for India held this view, and had advised the Food Controller to that effect. The concession in question was outside the terms of the contract. The extra farthing and/or 3 pies per pound, formed part of the purchase and, as the price of teas from Indian controlled concerns was paid and fixed in rupees, it followed that Indian controlled concerns were due to receive 25 of an anna, or 3 pies per lb., and this had already been made clear to the Food Controller and to the London Committee. It was now decided to address the London Association on these lines by the first home mail and to mention that, in view of the action taken by the Tea Commissioner for India, the Committee preferred to await the result, before doing anything further in the matter, but in the meantime they hoped the London Committee would press the point home to the Food Controller.

PROPOSAL TO RESTRICT PRODUCTION.—It was mentioned in the proceedings of 14th September, 1920 that the Committee had wired to the London Association in order to ascertain the latter's actual recommenda-

tions in the matter of reducing production. To this reference the London Association replied on 17th September, 1920, as follows:—

"Your cable 15th meaning current season's crop should be restricted "to 90% of the average for the five preceding years."

This cleared all doubts in the matter, and the Committee's circular No. 59, dated 27th September, placed the position fully before members, who were informed that the Committee strongly endorsed the proposal and relied upon the cordial support of members to see it adopted. The London Association were obtaining the views of London proprietors, and the object of the Committee's circular was to ascertain the views of Indian controlled concerns. Copies of the circular had also been sent to the Branches and local Associations, with a view to ascertaining, through these channels, the views of concerns not in the membership of the London or Calcutta Associations. In the meantime, the Committee trust that this question will receive the urgent attention it demands, and that members will expedite the submission of the yield figures which are asked for in the circular.

MADRAS AGENCY TRACTS.—A memo. dated 11th September, 1920, from the Chairman, Assam Labour Board, forwarding copy of his letter of that date to the Government of Madras, enquiring whether in view of the possibility that the Madras Government might decide to prohibit all recruitment for the labour districts of Assam from the Madras Agency Tracts after 1st September, 1921, when the experimental recruiting period of 18th months was due to expire, the Tea Districts Labour Association should proceed with the erection of a bungalow at Russelkonda, for the special local agent to be posted there, had been seen in circulation, and was now to be acknowledged and recorded.

THE WASHINGTON INTERNATIONAL LABOUR CONFERENCE: DRAFT CONVENTIONS AND RECOMMENDATIONS.—As arranged at their meeting on 31st August, 1919, the Committee informed the Chamber on 6th September, 1920 that they approved the draft reply which the Chamber proposed to send to the Government of Bengal in connection with that Government's request for the views of the Chamber Committee on matter dealt with in a letter No. 1-812, dated 11th May, 1920, and enclosures, from the Board of Industries and Munitions, regarding the draft conventions and recommendations adopted by the International Labour Conference at Washington. At the same time the Committee expressed a hope that they might count on the support of the Chamber to any representation which might be necessary against the introduction of legislation which would bring tea and other excluded factories within the operation of the Indian Factories Act.

A reply dated 6th September had been received from the Chamber, and it was now decided to publish this reply, in these proceedings, for the information of members.

"In reply to your No. 1200-O, dated 6th September, I am directed to say that the Committee of the Chamber have attentively considered the views expressed by your Association on the definition of 'factory' in the Indian Factories Act of 1911. As is explained in my No. 2527, dated 6th September to the Government of Bengal, Commerce Department, from which you quote, they are of the opinion that this definition ought not to be so amended as to bring tea and indigo factories within the scope of the Act. And should such a proposal be brought forward during their period of office, they will express this opinion. They cannot, however, give the assurance for which you ask, as the proposal may not be made for some time, and they cannot of course bind their successors in office, further than by recording their own opinion on the subject."

RUBBER RESTRICTION

In Ceylon.

At a conference of rubber planters in Colombo on the 17th Septr., it was decided that it was impossible to introduce any form of restriction this year regarding rubber, but that Ceylon producers would be willing to restrict, output in 1921 to the extent of 20 per cent. of 1920 crops, provided the Straits, Malaya, Java, Sumatra, Borneo, and other Eastern rubber producing countries would co-operate on the same lines. It was further decided to ask if the Rubber Growers' Association are in favour of the Governments of Ceylon, Malaya, the Straits and other rubber-growing countries being approached with a view to the imposition of a heavy duty on the export of scrap grades. This, it was thought, would have probably the same effect as a voluntary restriction of output.—*Malay Mail.*

"The Ceylon Chamber of Commerce" has despatched a telegram to the Ceylon Association in London announcing that producers in Ceylon are willing to agree to a reduction of output of 25 per cent over a specified period of 12 months, commencing on November is, 1st 1920. The reduction will be based on the actual crop harvested during the 12 months ending October 31st, 1920.—*Times of Ceylon.*

In F. M. S.

At a meeting of the F. M. S. Chamber of Commerce, held in Kuala Lumpur on September 24th, 1920, Mr. Hampshire proposed:—

> "That this Meeting is of opinion that the restriction of output of rubber is essential, and considers that, from past experience, voluntary restriction would be ineffectual, and that Government should be asked to introduce, as quickly as possible, an Enactment in the Federal Council on the lines of the recommendations of the Rubber Industry Protection Commission of 1918."

Mr. Mathewson seconded, and the resolution was carried unanimously.

At an ordinary meeting of the Planters' Association of Malaya, the following resolution was carried unanimously :—

> "That the Planters' Association, Malaya, urge upon Government the advisability of immediate restriction, so that the output of rubber might be restricted to 75 per cent of the normal output."

Burma

According to a telegram to the *Madras Times*, the refusal of the Burmah Rubber Planters to agree to the Rubber Growers' Association proposal to restrict output is based on the short tapping season.

NOTES AND NEWS.

Coffee Cable.

With this issue our weekly coffee cable re-commences, in accordance with the decision of the last Annual Meeting of the U. P. A. S. I.,

Indo-Italian Trade.

With reference to a suggestion made by the U. P. A. S. I., that a direct inquiry should be made of importers in Italy as to the quantity of Indian tea, coffee, etc., which they require, and as to the grading which they would like made, we understand that the Indian Trade Commissioner, London, has taken up the matter with the British Chamber of Commerce, Genoa. He suggests that the existence of a fine, direct service of Italian

steamers between Italy and Brazil in connection with the Emigration trade, may explain the vogue of Brazilian coffee in Italy.

Ceylon Tea.

According to the "Ceylon Chamber of Commerce" Weekly Price Current, dated 20th and 27th September and 4th October, 1920, the following are the figures of Ceylon Tea exported by rail *via* Talaimannar to Stations in South India:—

	lbs.
Madras	1,155
Negapatam	337
Trichur	2,262
Ramnad	164
Trichinopoly	1,050
Tinnevelly	240
Tanjore	280
Ayyampet	567
Kumbakonam	500
Calicut	2,600
Cannanore	4,815
Total...	13,970

Indian Tea.

Exports from Calcutta, Chittagong and South Indian Ports in July, 1920, to all parts of the world total 17,178,936 lbs. black. This brings the total for the four months, 1st April to 31st July 1920, up to 59,926,196 lbs. as compared with roughly 85⅓ millions in 1919 and 89⅓ millions in 1918. The exports for the period stated therefore show a reduction of 31% on the average exports for the previous 2 years, during the same period.

These figures may be compared with Ceylon :—

					lbs.
Total exports from 1st Jany. to 30th		Aug. 1920	...	Black	125,987,288
Do.	do.	do.		Green	2,083,642
Do.	do.	do.	1919 ...	Black	122,073,832
Do.	do,	do.		Green	1,612,920
Do.	do.	do.	1918 ...	Black	110,104,291
Do.	do	do.		Green	1,078,681

Department of Scientific and Industrial Research.

The Fifth Annual Report of the Committee of the Privy Council for Scientific and Industrial Research has now been issued (cmd ? 205), and may be obtained (Price 1/- by post 1/2½) through any bookseller or, direct from H. M. Stationery Office, at the following addresses :—

Imperial House, Kingsway, London, W. C. 2,
and 28, Asingdon Street, London, S. W. 1. ;
37, Peter Street, Manchester, 1, St. Andrew's Crescent,
Cardiff, 23, Forth Street, Edinburgh ;
or from E. Ponsonby Ltd., 116, Grafton Street, Dublin.

Besides a detailed account of the work of the Scientific and Industrial Research Department during the year 1919-20 this Report contains a review of the activities of the Department during the five years that have passed since the establishment of the Committee of the Privy Council for Scientific and Industrial Research, Statistics of the grants made and sums expended over this period, and an outline of the development of co-operative associations for Industrial research.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

Sir,—I have read with interest the extracts from the reports of the F. M. S. Labour Committee on ways and means of attracting South Indian labour to the F. M. S. Estates appearing in your columns. There is no doubt that the F. M. S. people have gone into their question very thoroughly ; and have recognised a principle that seems to me the essential to the whole matter ; namely that we must offer labour some attractions to stop on the estates, other than those of wages alone. It seems to me that this principle is not valued at its true worth, and would repay more study and discussions.

Under the existing conditions to-day in the low country the estates cannot claim any advantage for the cooly coming to them in the matter of wages—except in the case of women. But as women don't count down below, this asset is not recognised widely by the cooly class in the villages.

It seems to me, do whatever he may to make the conditions on an estate for his cooly as near those existing in their villages so far as is possible, a planter will always be on the debit side; and increasingly so as time and progression go on down below.

Let planters find some advantage to offer their labour that is distinctly an advantage in the eyes of the labour, and I think the labour problem, for a few years at least, is solved.

In the past, estate rate of wages has been a distinct advantage in the eyes of labour, and until the rise of wages down below did away with this advantage labour was not hard to get. Then the war came, and upset things. But it is an ill wind that blows no one any good, and war brought rice shortage, and the way the planters met this difficulty again produced a decided advantage on estate conditions over those down below. Had it not been for this fact, I believe, what with the Flu and the war, labour conditions would have been very much more serious than they were during the past four years.

But now the war is over—things are settling down to the normal again ; but the normal conditions of things now is very different to what it was before the war. We find as far as the estates are concerned that both the one time advantages that attracted labour—wages, and rice—are gone ; and that the attractions tending to keep labour in its own villages are increasing. Also the competition for labour is spreading and increasing every year ; and organisations to procure the same are likewise springing up and using strenuous and modern methods to procure labour, each for its own concern.

Thus, it seems to me essential to find some means of getting ahead of conditions in the low country again, and establishing a point of advantage to labour on our estates. 99% of coolies heard talking while working in the fields ; or walking along the road, talk of wages (money) or rice (food). These two subjects are still their chief interests in life, to the absolute subordination of all else—excepting perhaps connubial bliss—and from one of these subjects we must try and manufacture our advantage that is to attract the labour away from the villages.

I would suggest the introduction of a bonus system of recruiting in all new areas to be opened up—I don't think such a system would be introduced into the old established areas now.

Under this system, all advances would be given through the Labour Department in the low country. The advance would be cut down to Rs. 5 per head. Way expenses to and from the villages would be borne by the estates if the labour fulfilled its contract. Each cooly would receive a bonus of one anna per day he worked on an estate. This bonus would be paid at the Upasi Agency where the cooly was recruited on his legitimate return from the estate. I do not think estates would lose over this system; nor would the labour be more costly than the true cost of labour as now procured from the old areas,

The initial advance is small, and even if way expenses are not free and be included in the advance, a good cooly should have no trouble in working off his debt quickly. (But I think it is essential that way expenses be paid both ways to labour fulfilling its contract. The F. M. S. and Ceylon intend doing this, and we must fall into line to keep our end in the labour market. Also by not doing so we are creating a distinct *disadvantage* in our estate conditions—a dangerous thing when under present conditions the low country scale of advantages is higher than those our estates can offer). Again, on reaching his village again the cooly goes to his Upasi Agency, draws his bonus, and appears among his friends and relations, a man of substance, with ready cash in hand—no better advertisement could possibly be devised than that. Many coolies now coming away from estates with savings of Rs 10-20, squander them before reaching their villages, and, having got home, have nothing to show, which would be a powerful advertisement for our estates. But under this scheme, although no doubt they would squander their bonus, they would do so in and near their villages, and our advertisement still remains. A cooly returning to his village before his contract was over, with his Manager's permission, might draw his bonus due to date if he wished—advertisement again. A defaulter would have his bonus credited against his debt on return to the estate. Coolies recruited under this scheme must be registered in the Agency recruiting them, and would be provided with a tin ticket showing their estate, recruiting Agency, and registered number. No bonus would be paid until the existing tin ticket was given up; for which the cooly could demand a receipt.

There would be difficulty, no doubt, in starting such a system, but once started, and actual recipients of bonus existed, the scheme would, I think, flourish.

Further, we can expect labour legislation in the near future, and its form is almost sure to be one of protection from the Indian Government to its labour going to Foreign States. Under these conditions our position would be strong, if we could point out a guarantee that any cooly, working properly on our estates, not only could make a profit by their work, but on their return to their homes found a lump sum bonus waiting for them. Also the cooly who has misfortune on our estates always had this bonus behind him to help him. Such advantages should weigh heavily with any Government legislating for its working class.

If you think these views of any interest to planters generally, I would be much obliged if you can find space in your chronicle for this letter.

Yours faithfully,

"MADURA."

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

VOL. XV. No 43.] OCTOBER 23, 1920. [PRICE As. 8.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 15TH OCTOBER, 1920.

122s./- per cwt. Market dull.

RESTRICTION OF TEA OUTPUT.

Two letters in our correspondence pages to-day deal with this important topic, and whether we agree with Sir Fairless Barber or not that the position of the Tea Industry to-day is chiefly due to political conditions, we must all admit with him that the situation is an alarming one.

Some interesting figures are to hand by the Mail, and before commenting on the proposals which have been made to meet the situation, it would perhaps be as well to use them to show exactly what it is that Tea planters are faced with. Normally the stock in London is about 90,000,000 lbs., but at the present time stocks in the U. K.

amount to some 225,000,000 lbs , a surplus of 135 millions, a great quantity of which is of inferior quality, and therefore difficult of sale. In 1920, production in India, Ceylon, Java and Sumatra is estimated to reach 735 millions. Against this, consumption in the United Kingdom and locally (India and Ceylon) is expected to reach 410 millions while exports from U. K. and direct exports from the East to other countries should amount to 230 millions. This disposes of 640,000,000 lbs. during the year, and leaves a surplus of production over consumption for 1920 of 95,000,000 lbs., a considerable portion of which will have to be added to the above mentioned surplus of 135 millions. It is quite probable, therefore, that by the time the 1920 crop reaches London there will be a stock at home of some 275,000,000 lbs. a surplus of 185 millions over the normal. This surplus amounts to rather more than 25 per cent. of the estimated production for 1920, and is what we have to get rid of in some way before we can again look around and breathe freely.

In any other country the means ready to hand would be seized, and the import of tea from any but the country's own possessions would be prohibited. This, at a stroke of the pen would keep 127,000,000 lbs. of Java and Sumatra teas off the market, but such a proposal is hardly likely to find favour with the present Government. The preferential duty on Tea has not been sufficient to answer the purpose, and all attempts at persuading the Government to remove the restrictions on exports from the U K. have proved unavailing although, it is true, the Government of India have advised that, while the Ministry of Food was unwilling to remove the prohibition altogether, it had allowed purchases under license at public sales for export since January, 1920, and was asking the Board of Trade to allow the unrestricted export of Tea under license so long as supplies in the United Kingdom were not endangered. From the figures we have quoted above, it does not seem likely that the freeing of tea from all control would endanger supplies in the U K., and the fact remains that a certain quantity of tea is held back increasing congestion and generally aggravating the position owing to the refusal of Government to abandon all restrictions and licenses. The amount that would be exported if the restrictions were removed would not, of course, entirely relieve the present unfortunate position, but it would be by no means negligible, and would help considerably to remedy the congestion at the bonded warehouses.

So much for the political reasons. Economically, there is not the slightest doubt that the position is largely due to the indiscriminate dumping of millions of pounds of rubbish on the home market during the last few years. As a correspondent of the *Glasgow Herald* wrote some three months back, when discussing a produce like Tea, the only criterion is intrinsic value. "Many specimens", he says, "which have been offered on the London market would indicate that the entire tea shrub, with perhaps the exception of the root, is being manufactured for consumption. The appearance of this stuff is more like mahogany chips than tea." That is pretty strong language, and forms unpleasant reading for the Tea planter ; certainly such being the case those who have kept their manufacture, in spite of the temptation of

boom prices, at a high level of quality have reason to complain of now being asked, as Sir Fairless Barber says, to help out of the mess and put on their feet those who in the past have so abused this market.

Now with regard to the proposed remedy—restriction—if there is one thing the planter fights really shy of it is reduction of output. Faced even as he is with almost ruin, he still jibs at curtailing his crop, and one can quite follow his reasoning under the circumstances surrounding him It is no easy matter to reconcile the many directions in which the working of an estate are affected by restriction—labour, cultivation, disease, costs of production, are all points needing careful study, but these can be overcome readily enough provided there is unanimity. Failing this desideratum, who can resist the feeling that his neighbour is not playing the game, and for that matter, the feeling that with every pound of tea he deducts from his crop he is helping the Java and Sumatra planter to a better market?

It is indeed a difficult question, and if they do attain a solution, it will be by rising to a height of self-sacrifice such as few industries can claim ever to have reached.

CENTRAL TRAVANCORE PLANTERS' ASSOCIATION, PEERMADE.

MINUTES OF SECOND QUARTERLY GENERAL MEETING, HELD ON SATURDAY, OCTOBER 9TH, 1920, AT 10 A. M. AT THE HOSPITAL, PEERMADE.

Present.—Messrs. E. C. Sylvester (Chairman), Hon. Mr. J. A, Richardson, J. S. Wilkie, H. C. Westaway, J. Wedderspoon, R. J. McMullin, J. H. Cantlay, J. F. Fraser, W. E. Forbes, A. R. St. George, R. F. Vinen. (Visitors—Messrs. T. W. H. Fitchett and H. M. McCormack and W. A. J. Milner) *Honorary Secretary*.

1. Minutes of the last Quarterly General Meeting were taken as read and confirmed.

2. CORRESPONDENCE.—(*a*) Read correspondence regarding opening of the Periyar Dam shutters for 5 minutes once a week from March-June each year so as to wash out the stagnant water in which mosquitoes breed. It was decided to address Mr. A. J. Barton on the question urging its importance.

(*b*) BONAMI P. O.—Read and recorded correspondence, and it was hoped that the matter of financial guarantee required could be satisfactorily arranged so as to allow of th s most necessary office being opened at an early date.

(*c*) TRIVANDRUM INDUSTRIAL EXHIBITION.—The Honorary Secretary was instructed to ask Dr. Barker by wire to give us a stall 20' x 20' in which we could provide cups of tea free during the whole exhibition.

(*d*) PLAGUE SEGREGATION CAMP.—Read and recorded letter from the Collector, Madura *re* this camp; no further action was thought to be necessary at present.

3. BANGALORE MEETING.—Our delegates' report, supplementing the U. P. A. S. I. Book of Proceedings circulated to all members before the meeting, was read, and a vote of thanks to the delegates was proposed by Mr. Richardson, seconded by Mr. Fraser, and carried.

As regards the export duty on tea, Mr. Richardson proposed and Mr. Sylvester seconded the following resolution which was carried *nem con.*

"That, in support of the Bangalore resolution this Association would urge the immediate necessity of the removal of the export duty on tea as the present crisis in the tea market is considerably more acute than it was at the time the U. P. A. S. I. resolution was passed"

As regards the Indian Tea Cess, Mr. Richardson proposed and Mr. Sylvester seconded:

"That this Association ask the U. P. A. S. I. to cable the S. I. A. suggesting that the Indian Tea Cess be increased at once to 1 pie per lb., and that the funds so raised be used to buy up the present old stocks of tea in London, and that these be sold for the manufacture of caffeine". This was carried unanimously.

4. RESTRICTION OF OUTPUT OF TEA.—Resolved:—"That this Association considers that the best method to carry out restriction of crop would be to throw a certain percentage of the acreage out of plucking so as to reduce crop by 20%"

This was proposed by Mr. Sylvester, seconded by Mr. Wilkie and carried, and the Hon. Secretary was asked to inform the Secretary, U. P. A. S. I. accordingly.

5. TIMBER VALUES.—This matter having been fully discussed in Committee, it was hoped that a satisfactory settlement of the subject would be possible at an early date.

6. WAR MEMORIAL.—The Honorary Secretary was requested to obtain confirmation of the death of L. S. Trelawney, of Wallardie estate (reported killed at Mons) and then to order the memorial tablet from Messrs. P. Orr & Sons, the War Office having confirmed the names of five others of our number known to have fallen.

7. PLANTERS' HALL.—Mr. Wilkie regretted that no progress had been made in drawing up a plan and estimate of the Hall owing to his absence, and the Hon. Secretary was to ask the Committee again to submit these to the next general meeting.

8. LABOUR.—The Honorary Secretary informed the meeting that he had circularised correspondence from Mr. Dunning regarding labour in his division to all members. This was to be recorded, and Mr. Dunning was to be thanked for his interesting and valuable information.

9. ROADS.—The Honorary Secretary was instructed to write asking the Executive Engineer, Kottayam, kindly to inform this Association which

miles of the K. K. Road Government propose to re-metal during the present year, and urge the necessity of this road always being kept in first class order in future.

10. SRI MULAM DELEGATE.—Mr. Sylvester proposed, and Mr. Fraser seconded:

"That Mr. Cantlay be asked to represent us at the forthcoming Assembly, and that the subjects to be brought up by him should be Roads and Elephants"

This was carried unanimously.

11. CART-HIRE COMMITTEE.—The Chairman proposed a hearty vote of thanks to the Committee for their report, and was glad to learn that the rates agreed on were working satisfactorily.

12. After it was decided that the next General Meeting should be held some time in December, the proceedings closed with a vote of thanks to the Hon: Mr. J. A. Richardson for having come up to attend the meeting, and to the Chair.

(Signed) J. C. SYLVESTER,
Chairman.

(Signed) W. A. J. MILNER,
Honorary Secretary.

WYNAAD PLANTERS' ASSOCIATION.

Proceedings of an Ordinary General Meeting, held at Meppadi Club, on 14th, October 1920, at 2 p.m.

PRESENT:—Messrs J. C. Blackham, E. E. Eyre, W. Richardson, B. D. Darkin, J. U. Gomes, S. H. Powell, (by proxy), J. H. Hudson.

VISITORS:—Mr. F. R. Parnell, Acting Deputy Director of Agriculture, Dr. Norris, Government Agricultural Chemist, Messrs A. Todd I. C. S. and C. R. Charsley.
Mr. Blackham in the Chair

Proceedings of last Meeting were confirmed.

The Chairman welcomed Mr. Parnell and Dr. Norris, and thanked them for their presence at the Meeting.

LABOUR RULES. THE ELECTION OF MEMBERS OF THE STANDING COMMITTEE.—It was proposed from the Chair, and unanimously agreed, to that the Honorary Secretary be elected a member of the Committee ex-officio. The election of the Committee was proceeded with, and the ballot resulted in the following being elected:—

Mr. W. G. Craig—The East Indian Tea and Produce Co., Ld.

Mr. B. D. Darkin—The Meppadi Wynaad Tea Co., Ld.

Mr. C. E. Abbott—The English and Scottish Co-operative Wholesale Societies.

Mr. J. C. Blackham—The Panora Tea and Produce Co., Ld.

With a vote of thanks to the Chair the Meeting terminated.

(Signed) J. C. BLACKHAM,
Chairman.

„) J. A. GWYNNE,
Honorary Secretary.

AN INDIAN AGRICULTURAL SOCIETY.

Reprinted from the P. C., 27th December, 1919.

The Secretary of the U. P. A. S. I. has received from the Hon'ble Dewan Bahadur L. D. Swamikannu Pillai, I. S. O., Temporary Additional Secretary to the Government of Madras, Revenue (Special) Department, the following letter and enclosure, which, with his permission, we reproduce for the general information of all Planters, and, we shall be glad to learn what support the scheme will meet with from the planting community.

Fort St. George, 5th December, 1919.

Sir,—The Government of India have recently been considering a scheme for the formation of an Indian Agricultural Society with objects generally similar to those of the Royal Agricultural Society of England. As you are aware, one of the results of the Reform Scheme will probably be to make agriculture a Transferred Subject, and, although it is proposed to maintain central institutes for purposes of research, agricultural development will, in the future, depend very largely upon Provincial initiative. In the altered conditions, it will be useful to form an organisation of a *quasi* non-official character at the Head Quarters of the Government of India, which will, by keeping in touch with the Government of India and by having branches in the provinces, be a co-ordinating link in agricultural development. The proposed Indian Society would not be affiliated to the Royal Agricultural Society in England, but the latter Society is in favour of the proposal, and would be prepared to furnish any information required and to give any assistance possible. It has been suggested that Provincial Societies should be formed, with separate funds and organisation, and that there should be a Central Council, comprising: (*a*) A few nominated officials, (*b*) Governors and Members elected by the Provincial Society in proportion to their membership, and (*c*) Life Governors and Members elected by the Central Council. The Central Council might be financed by a small levy on the Provincial Societies and maintain a paid Secretary, and this Federation would then constitute the Indian Agricultural Society. The functions of the Central Council would be to co-ordinate the activities of Provincial Societies and advise them generally, and the objects of the Provincial Societies would be those indicated in the provincial prospectus which forms an enclosure to this letter. It is believed that zemindars and land-holders would welcome a scheme of this character, and would warmly support it.

I am to request that the Government of Madras may be favoured with the view of the Association, (*i*) on the proposal thus to form a non-official body or bodies whose function would be the encouragement of agricultural research and development, and (*ii*) on the suitability of the scheme outlined above. If possible, some indication may be given of the extent to which private endowments or benefactions and subscriptions for governorships and memberships are likely to be forthcoming in this Presidency. It is requested that a reply to this reference may be sent by the 15th January, 1920.

I have the honour to be, &c.,

L. D. SWAMIKANNU,

Tempy. Addl. Secy. to Govt.

Outline of Scheme for an Indian Agricultural Society

Constitution

PATRON.—His Excellency the Viceroy.

CENTRAL COUNCIL.—Comprising :

NOMINATED OFFICIALS.—

Hon'ble Member, Revenue and Agriculture Department, *Chairman* Secretary, Revenue and Agriculture Department, Agricultural Adviser.

ELECTED.—

Governors.

Members.

Branches to be organised in the provinces on similar lines, with the Head of Province as Provincial President.

Governors and Members elected by Provincial Societies to hold office on the Council for three years, one-third retiring each year.

Life Governors and Members of the Society to be elected in unlimited numbers at meetings of Council.

ANNUAL SUBSCRIPTIONS.

Governors	....	Rs. 75
Members	....	15

Life Governors and Members may compound their annual subscription for Rs. 750 and Rs. 150, respectively.

OBJECTS.

The general advancement of agriculture in India, and in particular :—

(1) To embody and republish in the vernaculars such information contained in Agricultural publications, and in other scientific works as has been proved by scientific experiment and practical experience to be useful to the cultivators of the soil;

(2) To correspond with agricultural, horticultural and other scientific societies, both in India and abroad, and to select from such correspondence all information which, according to the opinion of the society, may be likely to lead to practical benefits in the cultivation of the soil. The correspondence with foreign societies will be the function of the Central Council, and the selection of information likely to be useful in its own provincial circle will rest with the local society;

(3) To pay to any occupier of land, or other person who shall undertake, at the request of the society, to ascertain by any experiment how far such information leads to useful results in practice, a remuneration for any loss that he may incur by so doing ;

(4) To encourage the scientific study of the following matters, *viz* :—(*a*) the improvement of agricultural implements, (*b*) the construction of farm buildings, (*c*) the application of chemistry and manures to the general purposes of agriculture, (*d*) the destruction of insects injurious to vegetable life, (*e*) the eradication of noxious plants, and (*f*) the care and eradication of plant disease :

(5) To take measures for the improvement of the education of those who depend upon the cultivation of the soil for their support, either by the establishment of model rural schools, both elementary and secondary, or by encouraging the production of trained teachers for such schools, or otherwise;

(6) To take measures for developing the appreciation of veterinary science as applied to horses and agricultural stock ;

(7) At the meetings of the society in the provinces, by the distribution of prizes and by other means, to encourage the best methods of cultivation, dairying and breeding live stock ;

(8) To promote the comforts and welfare of labourers ;

(9) To encourage the re-grouping of scattered holdings, and the formation and maintenance of economic holdings ;

(10 To encourage the spread of co-operation among cultivators.

METHODS.

Awarding medals, prizes, life memberships, certificates, scholarships and diplomas upon the results of annual examinations in agriculture. Publishing a journal giving the results of the society's activities. Advising generally on all agricultural matters.

NOTE BY MR. ANSTEAD.

Under the Reform Scheme, shortly to be put in force, agriculture becomes a transferred subject ; that is to say, each Province will control and finance its own Agricultural Department, without the advice of the Government of India.

At present the Government of India refer matters of new policy, etc , to the Board of Agriculture, which meets every other year, and to special sectional meetings of Agricultural Chemists, Mycologists, Entomologists, etc., who meet in the years the Board does not sit. This affords an opportunity to the various Agricultural Officers, all over India, to meet together and discuss matters of agricultural importance, and to discuss their work and compare notes, etc. Under the new regime there is a possibility of the Board of Agriculture ceasing to exist, and then there will be no body which will have the power of calling Agricultural Officers together, and of criticising or advising the agricultural policy of the Provinces. This would appear to be a retrograde movement, and it is thought that if some body, like that described above, could be brought into being, it would act as a spur to continued advance, and be able to advise Provincial Agricultural Departments and keep agriculture and its needs constantly and prominently before the public.

An Indian Agricultural Society would appeal chiefly, perhaps, to Scientists, but it would be a body to which it would probably pay planters individually to belong, so that they might through that medium keep their scientific needs before the Government of Madras, and be in a position to benefit by the advice and experience of scientific officers outside the Presidency.

For a long time to come, no doubt, the planting community of South India can spend all the money it can raise to the best advantage on its own Scientific Department, but some Society, such as that proposed is called for, and it should find a considerable body of members among individual planters.

16-12-19. R. D. A.

AN INDIAN AGRICULTURAL SOCIETY.

Elsewhere in this issue we reprint from the "Chronicle" of December 27th last the outline of a scheme for an Indian Agricultural Society together with a note by Mr. Anstead. At the last meeting it will be remembered the subject came up for discussion, and a resolution was passed authorising the circularisation of District Associations urging them to recommend their members to support the Indian Agricultural Society. This has now been done and to assist Honorary Secretaries of District Associations in placing the matter before their members we have been asked to reprint the outline of the scheme.

We have thought it advisable to give further publicity also to Dewan Bahadur L. D. Swamikannu Pillai's speech at Bangalore last August on this subject.

DEWAN BAHADUR SWAMIKANNU PILLAY said:—It is a great privilege to me to be allowed to address the Association on the subject of the proposed Agricultural Society. I am sorry that I have had no further information about its progress since I was Acting Secretary. I do not know what kind of response has been made to the invitation to Local Governments and Associations in the matter, but it was evidently expected that this Association, the U. P. A. S. I., should lend its support both in its corporate capacity and on behalf of its individual members to the incorporation of the Indian Agricultural Society. I think it is unfortunate that the invitation to support the Society should have been worded in the general terms it was, because I think the objects set out in the general scheme are not objects which would primarily, or to a very large extent, appeal to members of the Association. But I think you will agree with me that in sending out a circular of this kind all over the country, it was impossible to have in view the interests of particular Associations. In the invitation, it was said that the Government of India had recently been considering a scheme for an Indian Agricultural Society with objects akin to the Royal Agricultural Society of England. They might have mentioned the Irish Agricultural Society which has probably done work, which has been more before the world than the Royal Society of England. It is a question whether such a Society is necessary for India, and whether this Association should lend its support to its formation. I think the interests of this Association in Indian Agriculture are sufficiently important to justify the appeal which has been made to you. I have heard it mentioned that besides the Indian Agricultural Society with its Head Quarters at the Head Quarters of the Government of India, there are also to be provincial Agricultural Societies with the Governor of the Province as President. You are strongly interested in the proposed Society because you are interested in Agricultural Research, and other subjects, which such a Society could promote. In the Society, you could have your own representatives, and bring forward your own questions. There are also questions regarding Agricultural Education, demonstrations and other subjects that the Indian Agricultural Association might deal with. I think you will agree with me that the United Planters' Association should interest itself in the general question of Indian Agriculture. Then there is the important matter which was mentioned yesterday about co-operation and co-operative work among members of the Planters' Association. That is a subject in which the whole country is interested, in a way, because you will be bringing yourselves into touch with the general co-operative movement, The Registrar of Co-operative Societies told me that

it was your intention to link up your own co-operative society with other societies so that any time you might form a co-operative wholesale society for India. That is a reason why we should join this new society. We have lately come round to the view that Agricultural Legislation will not be taken up by the Government of Ind a unless all those interested in the matter press it upon the Government of India. The great majority of cultivators are at present inarticulate, though they are go ng to have a large voice in the future of the country. It would be better therefore if you join with them in making representations to the Government of India. Mr. Pillay then referred to the working of the old Madras Agricultural Committee. He described how owing to the absence of practical cultivators on it, it had fallen from favour and finally closed down, and said that unless the Planters, and other practical agriculturists join the new society, there was a danger that it too would share a like fate. He asked them, therefore, to consider this matter, and if they wished any further steps to be taken by the Government of Ind a in furthering this new society, they should let them know their wishes.

THE FUNGUS DISEASES OF THE TEA LEAF

BY

A. C. TUNSTALL, B, Sc.

AND

S. C BOSE.

(Continued from 1920, Part I, Page 25.)

(The Indian Tea Association Monthly Journal, Part II, 1920.)

BROWN BLIGHT.—*Glomerella cingulata*

(STONEM.) S & v. S.—*Colletotrichum Camelliæ*, Mass.

Brown blight attacks the leaves and green stems of the tea plant. Brown blight is sometimes very serious indeed, and the loss in crop due to a severe attack is very considerable. It is more commonly serious on unpruned than pruned tea, and is frequently the cause of disappointing yields, especially when weather conditions are unfavourable, either too dry or too wet. The writers would urge planters to study this disease carefully, as if it really gets a hold on a block of tea it is exceedingly difficult to check. The portions attacked by the fungus die, forming patches yellowish to chocolate brown above and light brown below. The edges of these patches are sharply defined, and commonly marked with a delicate concentric zonation consisting of narrow lines and darker bands. Several spots may coalesce to form one large irregular patch. Minute black dots or pustules, (the acervuli of the fungus), are seen arranged in concentric lines on both sides. On some of these spots may be seen milky or pinkish drops. These are masses of spores or seeds of the fungus. This disease is often confused with grey blight, which it resembles. The black dots on the diseased patches due to grey blight are, as a rule, much larger than those

of brown blight, but sometimes it is difficult to distinguish these diseases without a microscope. Examined by a pocket lens, these dots will be seen as crater-like openings, some of which are surrouuded by deep brownish-black hairs or papillæ. A cross section of the diseased spot when examined under the microscope will show that the pustules are formed beneath the skin, and later push their way through by the development of a mass of mycelium covered with cone-shaped erect hyphæ or filaments. The end of each hypha or filament swells slightly, and later is separated from the rest by a wall. The detached portions correspond to the seeds of higher plants, and are called spores. This particular kind of spore is called a conidiospores. One or more conidiospores are produced from a single hypha. These spores have a gelatinous coat, and they often stick together and emerge as a milky or pinkish exudation. The spores stick to insects, like red spider or green fly, cattle, the clothing of coolies, etc, and are thus distr buted. They are oblong with their ends rounded, colourless, one-celled, rarely two-celled and measure 12·5—20 by 5-8μ (1000ths of a millimeter). This is the imperfect stage of the fungus and was for a long time the only known fruiting stage. It was known as *Colletotrichum Sp.* and *Glœosporium Sp.* When the blackish hairs mentioned above were present, the fungus was called *Colletotrichum Sp.* When no hairs were found it was called *Glœosporium Sp.* The fungus however seems to be identical. There are species of *Glœosporium* found on tea, but they have smaller spores. There are also various strains of the brown blight fungus, some of which develop few hairs.

This form of fructification is found throughout the year.

At a later stage the surface of the spot bearing the conidial form of the fungus becomes light grey, and covered with black dots. If a section be cut across such a spot and examined under a microscope, it will be seen that these block dots are the crater-like openings of spherical receptacles called perithecia. The perithecia are never surrounded by any dark hair like the acervuli of the conidial form. The perithecia, produced singly or in groups, remain embedded in the tissue with their mouths only projecting. The perithecia are nearly spherical, and occasionally with short beaks. They are black and carbonaceous, and measure 110—160 by 115—145μ. They contain a large number of club shaped sacs (asci), each of which contain 8 spores. These spores are called ascospores. The asci measure 55—74 by 10-13μ The ascospores are one-celled, colourless, slightly tapering towards their ends, and usually slightly curved. They are arranged in two rows within the ascus and measure 12·5—18 by 3·5—5μ. The interior of the beak of the perithecia is covered with hairs. These hairs have an important function as they regulate the escape of the spores.

This form of fructification may be found throughout the year, but it is most common during January to July, *i.e.*, during the cold weather and early rains.

The fungus infects the leaf when it is quite young. A tiny tube from the spore enters the skin, and the contents of the spore pass into one of the cells of the skin, and there remains dormant until the leaf is well stored with suitable food substances. The blight first appears on the upper surface of the leaf as a yellowish brown spot. As the spot gets older the tissue of the leaf dies, becoming dry and brittle. The central part of the spot sometimes ruptures and falls out, leaving a hole in the leaf. The disease is found more or less throughout the year, but it is more common during the rains, when the fungus attacks both leaves and green stems, and the stems become dry and black, and are easily broken. Both the forms of fruit bodies of the fungus appear also on the diseased stems.

The fungus has been grown in pure culture from both kinds of spores. It grows well in jelly made with either maize meal, rice meal, cane sugar, and standard dextrose.

In culture the conidiospores on garmination sometimes divide into two cells by a cross wall. They germinate by one or a couple of thin hair-like tubes or filaments arising from near the ends. The filaments give out lateral branches, and in some cases give rise at their tips, or in their length to black bodies by the sub-division of a portion of the filaments. These spore-like bodies are formed within 3—5 days after inoculation, and send out new filaments in some cases, while still attached.

In culture the mycelium is at first colourless, later a portion assumes a dark colour with many divisions, filled with numerous bright little globules. The conidiospores are at first produced singly at the tips of lateral branches. They take 2—4 days to develop, and as soon as they are completely formed, fall off. Black stromata are formed from 4—6 days, from the germination of the original spore from which the conidiospores are exuded in milky or pinkish drops. Whenever the black hairs mentioned above are present they are produced in abundance, in 7—9 days. They are either scattered or surround the stromata. They are deep brown, more or less curved, 2—3 celled.

The formation of perithecia does not take place in culture until considerably later.

In culture the ascospores on germination sometimes divide into two cells by a cross wall. They germinate within 2 days by giving out one or two filaments from either or both ends. The filaments give out lateral branches, at the tips of which conidiospores are produced within 4—6 days. The ascospores germinate readily, sometimes even inside the perithecium, and produce conidiospores. The perithecia are formed in cultures obtained from ascospores sooner than those obtained from conidiospores. They form within 6—8 days, and mature within 12—30 days.

The characters of the mycelium are similar to those observed in mycelium from the conidial stage. The perithecia are either produced singly or several are grouped within a single carbonaceous stroma.

Infection of sterilised leaves and green stems took place within 2 days, and in 11 days acervuli were formed in concentric zones. The perithecia under ordinary circumstances take a long time to develop.

Inoculation of healthy living shoots gave the following results:—

	Per cent of total leaves found to be infected from 42—122 days after spraying on a water suspension of the spores.
Bud leaves ...	32%
Young leaves ...	55%
Old leaves ...	20%
Green stem ...	Nil.
Old stem ...	Nil.
Check ...	Nil.

In the experiment under notice before 44 days no obvious signs of infection were noticeable to the naked eye.

The method adopted for inoculating the shoots was as follows. The shoots were first thoroughly washed with water, and then sprayed with conidiospores suspended in sterile water. The shoots were then covered with a mulmul cloth bag. These results do not mean that the blight will not develop sooner than 44 days, but that on the particular experiment the plants used were not in suitable condition for the development of the fungus before that period had elapsed. In some cases it is probable that the fungus develops within a fortnight. It is very variable.

The fungus may attack any tea leaf, but if the plant is in vigorous health it does not develop.

Experiments were made to determine the longevity of spores in the following manner :—

One-half of the diseased leaves were desiccated by putting them in test tubes without plugs which were kept in a desiccator for 2 days They were then plugged with cotton wool, and sealed with paraffin wax. The other half were plugged without desiccation. Each set was divided up into groups which were stored under different conditions.

It was found that exposure to sunshine was fatal to the fungus within a few months, but under ordinary circumstances, *e. g.*, light shade and a damp atmosphere the fungus could servive the cold weather with ease when in dead material. Solitary spores have much less resistance however. From this information it is obvious that it is necessary to remove all diseased material from the tea. It would be quite safe to bury it in trenches, or hoe it in provided it is covered deeply enough to avoid disturbance by subsequent light hoes.

The fungus is not confined to tea. It grows on ripe fruits and other parts of common jungle trees. It also attacks the *Albizzias*, e.g., Sau, Koroi trees. It is, therefore, impossible to eradicate it, but on most gardens the infecting material may be reduced to a great extent during the cold weather.

It will be seen that there are many serious difficulties in dealing with this disease. There is no doubt that the soil condition is a very important factor in this disease. The fungus is so common that, if all the tea was susceptible to attack little would survive. What then are the particular conditions favouring the disease? At Tocklai a plot of tea including all the common types of tea was allowed to become seriously attacked with the disease. The light leafed varieties were more severely attacked than other jats, including China. Light leafed varieties of tea are usually more susceptible to disease. The behaviour of China tea was exceptional. It was distinctly less susceptible to the blight. The diseased shoots were removed, and the lime-sulphur solution applied immediately after. At the same time an application of Potassium nitrate was made. There was a marked diminution of the disease. Later experiments showed that Burgundy mixture was a better spray fluid than lime-sulphur solution for this disease.

The disease remains in young infected stems, and from these infects the new leaves next season. Sometimes big stems die right back. It is therefore important to cut out all deseased wood at pruning time.

THE TREATMENT OF THE DISEASE.

1. In the case of isolated bushes it is important to pluck off all diseased shoots, and spray with 2 per cent Burgundy mixture, not only the infected bush, but all those adjoining it.

2. If there are signs of a serious attack developing, manure the soil at once with the following :—

1 oz. per bush Nitrate of potash forked in round the bush.

This treatment has given definite results at Tocklai. It is probable, however, that a mixture of :—

¾ oz. Netrate of potash
¾ oz. Sulphate of potash

would do better.

Application of nitrogen alone has been found to lead to increased liability to attack.

After removing all diseased shoots, spray with 1 per cent Burgundy mixture.

3. In the case of unpruned tea on gardens where previous experience leads one to expect an attack, it is well to remove all diseased leaves and shoots, and spray with 2 per cent Burgundy mixture during the cold weather. This treatment will pay in any case whether brown blight is expected or not. It will help to check red rust and copper blight.

It should he specially noted that nothing predisposes plants to this disease so effectively as bad drainage or poor tilth due to lack of organic matter in the soil. Whenever the disease causes much damage special attention should be paid to these points.

NOTES AND NEWS.

Rubber—No Slump in Sight

The MIDSUMMER DULLNESS, with its vacations, a few shut downs and a certain slackening in orders, in the light of the needs of the country does not for a moment argue a general depression in the rubber business. As the Goodrich company points out, the automobile and motor truck business is due to continue its demand for tyres, and that in increasing proportions. So, too, the United States Rubber Co. predicts a footwear business for next year fully 40 per cent greater than that of the present year. In addition to this is the vast new railway equipment needed for railroads, in all of which the mechanical goods companies share. Truly, instead of gloom, the prevalent attitude in rubber should be most optimistic. ("India Rubber World"—September.)

Potash reported on Vancouver Island.

The reported discovery of potash on Vancouver Island is a subject of intense interest to Canada. Previous to the War, Germany produced annually 7,800,000 tons of potassium salts, which occur in that country in a form so easily mined that other countries, whose deposits were contained in rock formations, were unable to compete with the German trade. Germany, therefore, held the world monopoly, deriving an annual income of six millions sterling from the product. The quantity taken by Canada in 1913 was 5,200 tons. It is known that there are vast deposits containing as much as 15 per cent of potassium occurring in Eastern Canada and the Rocky Mountains. The definite discovery of such Canadian deposits, under conditions which would enable potassium salts to be mined and placed on the market at a price to compete with the European supply, would revolutionise the fertiliser problem of the British Empire. (Production and Export).

Coffee.

We read in a home paper that the Coffee Import Society-Hamburg, has been empowered to permit the import of a total quantity of 500 bags daily, and there is more enquiry for the continent generally. In view of the lesson taught to some Tea planters, it is interesting to note that in mail week all the coffee offered in sale was of inferior quality and proved of little interest to the home trade.

Coffee Stealing Prevention Act.

A. G. O. (No. 1980, Home, Judicial, of 11th August, 1920) states that it is proposed to make an amendment in the rules framed under the above Act permitting the triplicate copy of Form B (form of permit under section 10 of the act) being sent to the Station House Officer having jurisdiction instead of, as at present, to the Superintendent of Police.

Rubber Production

Mr. E. G. Windle writes to the *Madras Times* as follows:—" In a report of a meeting of Rubber Growers lately appearing in the *Madras Times* it was stated that only two refusals to limit output of rubber estates had been received, mine being one. My reason, however, was not stated, which was that the rubber I spoke for is hill rubber, at elevations of 3000 feet and over; its yield is naturally behind that obtaining in the low country, and any restriction means closing down. I am quite prepared for production to be limited to 200 lbs. per acre; how would that suit the rubber growers?

Department of Agriculture, Madras.

FIRST REPORT OF THE PADDY CROP OF 1920-21.

(On an average of the five years ending 1918-19, the area under paddy in the Madras Presidency has represented some 14·1 per cent of the totai area under paddy in British India.)

The area shown with paddy up the end of September 1920 isl estimated at 6,631,000 acres, which is about 10 per cent below the estimate of 7,337,000 acres made on the corresponding date last year. The decrease is fairly general, and is due to the lateness of the season.

Rubber Restriction of Output.

The Secretary, U. P. A. S. I. has received the following cable from the Rubber Growers' Association, London:—

> "Reference your telegram seventh, assents received our circular "twenty-fourth represent over 80% our London members. Over 90% "our South Indian Members have agreed. Urge local interests to "come into line in the interests of industry as a whole."

Ceylon Tea.

Figures of Ceylon Tea exported by rail *via* Tallaimannar to the following stations in South India:—

	lbs.
Madras	500
Tinnevelly	620
Trichur	2,750
Cachin	500
Palghat	1,000
	5,370

These figures are taken from the "Ceylon Chamber of Commerce Weekly Price Current, dated 11-10-20.

LETTERS TO THE EDITOR.

The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

Palapilly P. O.
15th October 1920.

TEA RESTRICTION.

Sir,—I note with regret that the restriction of tea output at present suggested is that Ceylon should reduce crops by 20%, and India by 10% based on the past 5 years' outturn.

Beyond being iniquitously unjust on young places the restrictions are absurdly inadequate to meet the present situation. The plain fact is that there is a surplus 100 million stock in sight, and we can be sure that the big blenders have taken advantage of the slump and hold quite an unusual amount of tea.

I see no reason whatsoever to differentiate between India and Ceylon, and would suggest that the soundest policy for all parties would be to take 40% of our tea area out of plucking and let it run up for two years or such period as is necessary to bring stocks down below 100 million. If this is done we should be able to cultivate the balance of our properties and make a profit. Personally I see no fun in growing tea at a loss.

I am Sir,
Yours, etc.,
(Signed) A. H. MEAD.

RESTRICTION OF TEA OUTPUT.

Dear Sir,—I have received a circular from the Secretary, U P.A.S.I., giving the proposals of the various Associations concerned and a *resume* of the replies he has received.

A very unfortunate and even alarming situation has arisen, but it seems to me that so far no proper consideration has been given in South India as to how to meet it.

The present position is undoubtedly chiefly due to political conditions, but economical reasons have contributed towards it.

During the crisis eighteen years ago there was a large margin in prices, though not so large as it is now, but this gradually grew less until during the last few years the quantity-at-any-price school has had it all its own way, and certainly it has taken full advantage of it, plucking has got worse and in may cases all care in manufacture has disappeared.

Is it fair that those who in the past have so abused this market should ask those who have tried to keep their plucking, and manufacture up to help them out of the mess they have made and to put them on their feet to make more muck tea?

I cannot recommend any interests which I represent to follow the advice put forward at the Annual Meeting, I see others support the recommendations, but I look upon it as the advice of self interest.

Orders have already been issued for finer plucking, but it is not necessary to paint the lily,

Yours faithfully,
(Signed) E. F. BARBER,

To The Editor,

The "Planters Chronicle."

Labour.

Dear Sir,— I was greatly interested in a letter you published in your issue of October the 16th, by "Madura", and the suggestions contained therein.

While I agree with his main object, I do not entirely agree with the means whereby he proposes to attain it. I refer to his proposal that an anna per day bonus should be paid to each cooly coming from the new areas, for every day he works on the estate. The proposed increase in pay may be considered necessary, in fact if you agree to pay a bonus it is tantamount to admitting, that it is necessary. Why therefore make reservations. If the object in view is the increasing of the daily outturn, then, there is quite a lot to be said for the Bonus system, I am not dealing with this aspect of the question at present, however, and it was not the *raison d'etre* of "Madura's" letter, I think.

I do not know why it is, that the word Bonus is so beloved of employers of Labour, I imagine it is because it is so elastic, it is in fact a promise encumbered with reservations, and though to the western mind, it carries with it a certain amount of rough justice, can it be said to strike the eastern in the same way?

Perhaps its main appeal so far as the employer is concerned is its uncertainty. Now to attract the labourer, (which I understand "Madura" is out to do) as we now him, it is necessary to give him exceedingly plain facts, and not uncertainties wrapped in conditions. It is perhaps true that so long as he has sufficient on which to eat, drink, and be merry to-day, he takes little cognisance of the morrow, and it might be argued that the uncertainty of a Bonus would appeal to him. He is doubtless a philosopher, —till you touch his pocket, when his emotions become similar to yours and mine. As the morrow concerns him little, so, I think, the promise of an indefinite sum of money at the end of a period of say, ten months will concern him even less. Ten months is a long time when one's mental outlook on life is that "to-morrow never comes, it is always to-day.

If the pay is to be increased (and I do not say that this is necessary) why involve the matter? Suppose the scheme outlined by "Madura" is adopted. The average man on an estate works say, 250 days in ten months, (I am presuming that it is only work done on check roll which is to count for the bonus) at the end of that period he will receive about Rs 15 (sufficient at present prices to buy himself and his wife a cloth and some betel), He will have to be a very steady worker to earn that amount, and in the majority of cases it will be much less. Take it that the average is Rs 10. If his pay were put up by one anna at a single leap, would the difference in the amounts expended amount to very much?, even if a fixed bonus were thrown in for steady work, to assist the outturn, and serve "Madura's" purpose.

I am of the opinion that the bonus system is inimical to recruiting as opposed to something constant. It would be difficult, I imagine, to convince a cooly at the end of ten months, that he had not worked every day of that period including Sundays. He knows perfectly that he has not, but, where it is a case of him thinking that a little gentle "lead swinging" will produce a rupee or two, he will endeavour to act up to his principles, and in the course of time he will arrive at the conclusion that he has a legitimate grievance, and that he is being sadly "done" by someone. I may be wrong

but in my opinion the less room given for misconception in the matter of wages, the better. It is no doubt a simple proposition as far as we are concerned, so many days' work, so many annas' bonus. The mere fact that there are conditions, however, confuses the cooly, and in that state of mind he is prone to suspect "traps." On the other hand if he is told, or better still, if it is printed in large block capitals and placed where he cannot help seeing it, that his pay is so many annas per day unconditionally, with the chance of a bonus at the end of his time, at the option of the manager and not as his right, he will understand the matter much better, I think. Let the average manager try to explain to a cooly, that, with loss on rice, head-money, etc, he is really receiving much more than appears opposite his name in check roll, and he will get an idea of what I imagine the result would be on the Bonus system.

On certain estates I know that the bonus has been working for some time, somewhat on "Madura's" lines, the difference being that the cooly has to work so many days per month to obtain any bonus, and, if he fulfils the conditions stipulated, he receives the money either once or twice a month. This was introduced, I believe, to serve a dual purpose; the popularising of the estates and the increasing of the outturn. At the same time other estates increased the pay without reservations, and it would be interesting, were it possible, to compare the results, as regards placing a labour force on an estate.

A Bonus is an excellent lever for elevating the outturn figure, but at the risk of being accused of emphasising the obvious, I would point out that it is first of all necessary to have a force to turn out, and I do not think that "Madura's" bonus of one anna per day is going to cause any immediate rush from the plains to the hills. A direct increase in pay all round might, especially if judiciously advertised, which brings me to a point in "Madura's" letter with which I am in complete agreement. He lays stress on the necessity of advertisement, and it is only with his methods that I disagree. It is necessary to have something to advertise, and with the people with whom we have to deal it is advisable to see that what we advertise is sound. How advertisement can be successfully carried out, I do not pretend to know, but the method suggested by "Madura" is on sound lines I believe, and could be improved upon if gone into thoroughly.

In the foregoing I have pre-supposed that an increase of pay is imperative, but I should like to have the opinions of those better able to judge, whether, if the increase in pay were dispensed with and advertising taken up on a large scale, the results would not be the same. There must be countless numbers of the labouring classes in Southern India, who are unaware of the existence of etates, three or four days' journey away from their homes, who, through the more up to date methods of our competitors are conversant with conditions extant in "FOREIGN PARTS", to the detriment of our own estates. There are a number of other points in "Madura's" letter with which I should like to deal, such as the effect of the bonus on old labour, who are to be left out under his scheme, and the accomplishing of the work involved in dealing with what would amount to very large sums, by the Labour Department of the U. P. A. S. I. I am afraid, however that I have encroached upon your space over much as it is, for which I apologise.

Yours faithfully,

(Signed) "MACKAY."

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 24TH OCTOBER, 1920.

120s./- per cwt. Market Flat.

HOOKWORM.

BY DR. F. MILTON.

I

The control of Hookworm disease is of paramount interest to the Planting Community, and it is to be hoped that with the departure of the Rockfeller, Specialist, to take up work among the industrial concerns in Madras, the interest which he has awakened among us will not be allowed to evaporate.

A certain amount of work has been done by him in the North and Nilgiri-Wynaad, and it would be of great interest to hear from the Superintendents of Estates, on which the Expert has carried out his campaign, what they think of the results obtained.

The Annual Report of the International Health Commission, published by the Rockfeller Foundation, will doubtless contain a report on the work done, but since this will consist mainly of statistics of cases treated and cured, and will be seen by but few amongst us, we are unlikely to derive much benefit from it, whilst a personal account, from the Superintendents concerned, would be of real value. Meanwhile, it might interest Planters to be given an idea of what can be done by their own Medical Officers, in the absence of an Expert, and what results may be hoped for.

With a population showing a cent per cent infestation with hookworm, such as we have amongst the agricultural coolies of S. India, it is estimated that there is a 30% loss of efficiency. The gain to be hoped for, as a result of a completely successful campaign, then would be either a 30% increase in the work done, or a 30% decrease in the number of the labour force, the latter probably being of greater importance to the Planter, under present conditions, than the former.

In order to attain this, a properly conducted and rigorous campaign is necessary—a campaign, implying the willing co-operation of every individual maistry and cooly. It will also involve certain expense and temporary loss of labour, as I will endeavour to show.

Let us take, as a unit, an estate employing, say, 600 coolies at the moment the campaign is started.

Now, in order to cure a case of hookworm, it has been found to be necessary, to give on an average, three causes of treatment, and in order that the progress of the individual case may be tested, there must be an interval of at least 8 days between treatments.

A treatment means that the cooly, after ceasing work on a given day, is given a preliminary purge that evening, and is then, the next day, delivered over to the M. O., who will keep him so thoroughly busy that he will have neither time nor inclination for work during the next 24 hours, though, at the end of that time, he will be able to return to his duty a wiser, and it is to be hoped, a better man.

At the end of a week, the M. O. will arrange to obtain a specimen of this patient's fœces, and if, from them, he finds the man to be still infected, as he almost certainly will be, he will order another course of treatment, which will be given on, probably, the 10th day, after the first course.

This routine will be repeated, until there remains no evidence of any hookworms being left in the body of the patient.

On an Estate of 600 coolies, it will be found most convenient to tell off one-tenth of the force for the first treatment, each day for 10 days, (M. O.'s are not generally free to strictly observe the Sabbath).

Thus from, say, the 1st of the month to the 10th inclusive, the Estate will be deprived of 10% of its labour force.

On the 11th of the month, the second course of treatment, for those who have been found to still harbour parasites, will be begun.

It is probable that the examination of the fœces by the M. O. will show about 25% of those treated in whom there are no longer evidence of the presence of worm, leaving 75% requiring this second course.

Very well then, from the 11th of the month till the 20th inclusive the estate will be deprived of 7½% of its labour, daily.

On the 21st of the month, the third course of treatment will be begun.

It will probably be found, as a result of examination, after the second course, that about 50%, of the original number of coolies treated, still show signs of infection.

Thus from the 21st to the 30th of the month, the estate must do witho 5% of its labour.

After this 3rd treatment, it will, probably be found that some 10 15% of the whole, are still uncured, and that these need a still further cours but it is more than likely that a good many of these will feel they have be through enough to go on with, and the numbers of those accepting furth treatment will not be great enough to be a noticeable loss in labour to t estate.

On the whole month, the Estate will have lost the use of 7·5% of labour daily.

It will be found necessary also to feed the coolies, on the day they tal their treatment, this will mean that, during the 1st 10 days, 60 coolies wi have to be fed daily, during the 2nd 10 days, 45 must be fed, and during th last 10 days 30, a total, altogether, of 350 coolies to be fed during th month.

As to the cost of drugs given, a firm, to whom I recently applied f quotations cited me Rs. 80 a pound for oil of Chenopodium, but could n quote for Thymol. The price seems to me extremely high, but accepting as the current price, and as an indication, Thymol would be about Rs. 40 pound. Chenopodium will give, say, about 400 doses to the lb., and Thym about 200.

The 600 coolies will require 1,350 doses between them, therefore, treated with Chenopodium, the cost of the drug will be about Rs.270, if wi Thymol, it will be about the same, in addition to this the estate would u about 2½ cwt. of Epsom salt at Rs. 28 per cwt.=Rs. 70.

The total drug bill, then, would be about Rs. 350.

Putting the 1,350 diets issued at As. 3 each, this would bring the tot cost on drugs and food, to Re. 1 for cooly treated (600).

This. added to the pay of 1,350 coolies, idle for one day, will give th actual cost of treatment in cash.

I am taking it that the existing medical establishment are able to cop with the extra work, though it will give them a delirious month.

(To be continued.)

ANTI-HOOKWORM CAMPAIGN.

The following is the report for the month of August, received from Dr G. P. Paul, Medical Officer, Anti-Hookworm Campaign :—

The Campaign on Cherakara Estate, Manantoddy, Wynaad, was brough to a close on the 21st July. Our staff and supplies went to Jessie Estat about seven miles distant, on 23rd July.

CHERAKARA ESTATE.—During the month of July, a total of 724 trea ments were administered. Of these, 41 were first treatments, 236 wer second treatments, and 447 were third treatments. During the entir campaign on this estate the number of treatments were as follows :—

First treatments	...	...	694
Second do	...	...	575
Third do	...	...	447
		Total...	1,716

The reason given for the decrease in the number of subsequent treat ments were " Medical reasons," and that the coolies had left the estate.

The microscope examinations made after treatment, to determine th

cure rate, showed that 77·2 per cent. of the treated were cured. On the upper division of the estate, where the coolies were heavily infected with the parasites, the cure rate was less than among the Tamils of the lower Division, who were less heavily infected.

The question of giving the heavily infected coolies another treatment was taken up with the estate superintendent, who will have the estate compounder to continue the work.

Very many of the coolies on being questioned stated that they had derived considerable benefit from the treatments. In many cases where swelling of the lower limbs was prominent this symptom had disappeared. They stated that they felt stronger and fitter, and were able to work and climb hills better, and without the previous shortness of breath. Improvement in the coolies was very apparent to myself and staff.

Until sanitary conditons are proper, a single semi-annual treatment given to each cooly previously treated will greatly aid matters.

NORTH MYSORE PLANTERS' ASSOCIATION.

Proceedings of half-yearly meeting, held at Balehonnur, 18th October, 1920.

PRESENT.—C. H. Browne (Chairman), F. I. Morgan, G. R. Frend, A. Harman, H. Browne, F. W. Hight, R. G. Hudson, R. G. Foster.

VISITORS.—Capt. E. M. Nixon, and N. G. B. Kirwan.

A telegram was received from the Honorary Secretary, Mr. H. W. Reed, expressing his inability to attend the Meeting on account of ill-health.

A telegram was sent to Mr. Reed expressing the sympathy of the meeting at his illness, and asking if a substitute should be elected to represent the Association at the coming Dassera Meeting at Mysore.

At the close of the meeting, a reply was received from Mr. Reed, saying he was somewhat better, and hoped to be able to attend the Dassera Meeting.

Resolutions passed.

INCOME TAX BILL AND RULES.—That the Mysore Chamber of Commerce be requested to kindly send a copy of the proceedings of its meeting, held on the 14th instant to consider this subject,

ST. GEORGE'S HOMES.—That the Association do make a donation of Rs. 500 to this Institution.

WAGES OF ESTATE LABOUR.—That the pay of Estate coolies be raised to 6 and 4 annas daily for men and women, from the 1st of January next subject to the approval of the other Mysore Associations.

U. P. A. S. I. LABOUR DEPARTMENT.—That the working of the South Canara Agency has not proved entirely satisfactory in respect of Mysore Labour. It is a question whether Mysore Estates have not lost more, Labour through this Agency than would otherwise have been the case.

Mr. N. G. B. Kirwan of the Bababudin Association addressed the meeting regarding establishing Planters' Curing and Manure Works in the Kadur District. His proposals were favourably received, more especially with regard to manure works. It was shown that raw material was being taken out of the District to manure works in distant parts of the Madras Presidency, and brought back at constantly increasing cost, which must end in putting a stop to manuring on all but the most favourably situated Estates. It was hoped to put a cut and dried scheme before Members, at the next Meeting.

C. H. BROWNE,
Chairman.

THE PLANTING MEMBER.

MADRAS LEGISLATIVE COUNCIL.

The scrutiny of the nomination papers of candidates was taken up at 2 p. m., on Monday, 25th October, at the Office of the United Planters' Association of Southern India, Coimbatore, when it was found that the only nomination received was one for the present Planting Member, the Hon'ble Mr. J. A. Richardson, who was accordingly returned un-opposed, and declared elected.

H. WADDINGTON.
Returning Officer,
Planters' Constituency

THE LONDON MARKETS.

Tea.

Indian Tea—33,719 packages were offered There was a very strong market for all grades above common, and extreme prices were paid for the better liquoring sorts. Lowest kinds showed little change, and stalky sorts were difficult to move. The new seasons Darjeelings offered were unattractive. For next week 44.802 packages were catalogued, and several invoices show much improved quality.

Ceylon Tea.

The quantity brought forward at the auctions on Tuesday was again large, comprising about 33.000 packages, and the auctions were divided into two days, Tuesday and Thursday. The demand was again good, and, apart from the lowest grades and poor liquoring teas, the market may be quoted firm.

Java Tea.

2,131 packages were offered on Thursday, but only about one-third of this quality was sold.

Coffee.

Fair quantities have been offered, but the selection on the whole has been disappointing. Fine parcels are exceedingly scacre, and anything approaching this description is well competed for.

Pepper.

Little market business has been done, and the trade generally is buying only sufficient to cover immediate requirements, while prices remain steady.

Black pepper is unchanged at the recent slight reduction, and there is little hope of a permanent recovery in prices until a considerable continental demand arises, as stocks on the spot, particularly of the poorer grades which are unsuited to the Home Trade, are very heavy. Stocks of white pepper, however, remain small, and good parcels command full prices. Unfortunately the majority of the recent arrivals included parcels considerably below the average standard of quality.—*The Produce Markets' Review*—October 2nd, 1920.

Rubber.

There can be no denying the fact that rubber goods, tyres, etc. are wanted—at a price, and that the present retail cost of the manufactured article is far too high. Whose the fault is, whether makers or labour, probably both, is no concern of ours. All we know is that the price of raw rubber has no more reason to be as low as it is in face of the demand for rubber goods, than the price of these goods need be so abominably high—well above the popular purse. —*Tropical Life*—September 1920.

SELECTION OF HEVEA.

AN INFORMATIVE LECTURE.

QUESTION OF "THINNING OUT."

ON August 11, at the invitation of the Lower Perak Planters' Association, Mr. R. M. Richards, Director of the Department of Technical Research, Malay Peninsula Agricultural Association, delivered a lecture at the Lower Perak Club, Teluk Anson, on "Selection of Hevea."

The lecture was attended by seventy men, including planters from Teluk Anson, Bagan Datoh, Sungkai, and Tapah, representing considerable plantation interests.

On Sunday, September 19, Mr. Richards delivered the same lecture at Caledonia to an audience of Province Wellesley and North Perak Planters.

The lecturer introduced his subject by referring to the progress of science in relation to Agriculture, and asked his audience to consider the possibilities of progress in British rubber-producing plantations under modern agricultural scientific methods.

The producer of economic products obtained from plants all over the world has been forced to adopt selective methods in order to obtain a higher production, or the production of more profitable type, and so ensure a balance on the side of profit in a highly competitive market. By selection, it has been shown that disease resistant varieties may be produced, and, further, that the factor of disease resistance may be combined with that of productiveness and other qualities.

CONTROLLABLE FACTORS.

Mr. Richards stated that his lecture was given with the intention of summarising the present position of our knowledge of the subject, and pointing out the controllable factors.

It is known to every observant individual that any plantation consisting of trees propagated from seed contains comparatively few high yielders and a large number of poor yielders. In view of this fact, it is clear that haphazard methods of thinning out should on no account be undertaken. Thinning should never be attempted unless some method or methods of determining the initial character of each individual tree could be introduced on the estate. By selective thinning, perhaps 40-50 per cent of existing trees could be thinned out from any areas with a stand of 90 to 100 trees per acre, since the rubber produced by the poorer trees represents a very small percentage of the total crop.

The lecturer referred to the vast amount of work which had been done by Planters and Botanical Experts on the subject in the Netherland East Indies, as a result of which undeniable facts had been determined.

The conclusions could be summarised as follows:—

(1) The extent to which thinning may be done must vary with variable factors—such as the direction of greater divergence from average yield, soil conditions, etc.

(2) There is no necessity to thin out evenly and so provide equal space in all directions for each tree; providing adequate space can be given in one or two directions, and as stated by Dr. Rutgers in 1918.

(3) Every rubber estate consists of many poor trees, and a few good trees.

(4) Good trees remain good; poor trees remain poor.

(5) The main part of the crop comes from a few good trees.

(6) Without thinning, the production goes down, and the bark renewal becomes worse each succeeding year.

(7) With selective thinning, the production goes up, and the bark renewal remains thick.

(8) Selective thinning reduces the cost price.

(9) Selective thinning is possible under estate conditions.

The Possibilities of Selection.

Mr. Richards then proceeded to consider the possibilities of the generative and vegetative selection of Hevea. It should be possible to increase the standard of productivity in Hevea, and establish a plant community which will not require selective thinning or thinning at all except to provide adequate space.

As in Java cinchona trees have been produced, by both generative and vegetative selection, in which the quinine content of the bark has been doubled; so, in this country, since the variation in individual yielding capacity is infinitely greater in Hevea than in cinchona, it must be possible to produce rubber trees which will produce more than double of what is considered a good yield of rubber per acre under present haphazard methods.

Both generative and vegetative selection methods were then described and illustrated. The lecturer reminded his audience that hereditary initial characters are influenced by external factors, and that, among these, soil conditions will play a very large part in determining the degree of development of the characters which are potential.

The main result of selective thinning and selection of stock is undoubtedly the subsequent reduction in the cost of production.

It could be urged that increased yields will result in over production, with a consequent fall in the price of rubber. That a state of equilibrium between supply and demand may be produced, or that the supply may exceed the demand, is quite possible, but there are so many factors determining the state of the balance between supply and demand that no man may define with any degree of certainty what the relative position may be in the immediate future, or some years hence. Let the possibilities be what they may, the plantations which produce the greatest quantity of rubber per unit area (other conditions being equal) will retain the best position, since the cost of production will be relatively low.

Let the Rubber Plantation interests follow the leadership of other great economic planting communities, and limit the producing area in order to control the price, the plantations producing the greatest quantity per acre will still retain the best position. If any struggle for existance is to come in the future the struggle will not be merely between individual producers in this country, for there are keen competitors elsewhere. In the Netherlands East Indies we have competitors who have already seen the advantages of, and to some extent have adopted, selective methods.

In reply to a question, Mr. Richards stated that his lecture would be published at a later date.

RUBBER EXHIBITION IN LONDON, 1921.

The Government of Ceylon have decided to recommend to the Secretary of State that an amount equivalent to that provided from private subscriptions, up to a maximum of Rs. 25,000 should be given by Government towards the expenditure in connection with the Exhibition to be held in London in June, 1921.

COVER-CROPS V. CLEAN WEEDING IN CEYLON TEA-PLANTING.

In the August issue of our Ceylon contemporary "The Planting Gazette" appears a letter containing a suggestion for growing the various species of Oxalis as cover crops among tea.

The writer bases his argument on the scarcity of labour, and the all round increase in estate expenditure. In support of his contention that this is preferable to the practically universal system of Clean Weeding, which now obtains in Ceylon planting, he quotes Mr. R. D. Anstead, Deputy Director of Agriculture, Planting Districts, Madras. This authority has stated that "Many hundreds of acres of steep land are under this weed, *Oxalis Cornicalatus L*, in India, and that the tea has decidedly benefitted, and the soil erosion under Oxalis is practically nil."

At the request of the writer of the above mentioned letter, the Editor of the Planting Gazette reprints, in the same issue, a letter from the pen of M. Kelway Bamber which appeared some time ago relative to this weed.

Dr. Bamber has weighed and analysed the produce of Oxalis from a small plot of ground, where it was growing thickly and to a height of five or six inches. The yield and composition were as follows:—

Analysis of (Sun dried) *Oxalis violaciae*:—

	Per cent.	Pounds per acre.
Moisture	21·0	
*Organic matter	71·5	= 1,200
†Mineral matter	7·5	= 126
*Containing Nitrogen	1·36	= 22·0
Containing Lime	9·70	= 11·9
Magnesia	4·00	= 5·0
Potash	11·80	= 13·8
Phosphoric Acid	9·60	= 11·8

At first blush it does seem beneficial to have a crop of this kind which returns to the soil half a ton of organic matter containing 22 pounds of nitrogen, 13 pounds of potash, and 11 pounds of phosphoric acid. The plant is, it must be remembered, a non-leguminous one, and, as such, procures its nitrogen, as well as its Phosphoric acid and Potash from the soil. True, it is a very beneficial action that these materials have been held up by this extraneous vegetation, since, had it not been allowed to grow, they might otherwise have been washed away for good.

Although we are strongly of opinion that Clean Weeding has been raised to the point of being a fetish in Ceylon, we should certainly not go so far as to advise the use of oxalis as a cover crop. One of the smaller leguminous plants, such as Tephrosia candida, Crotolaria, striata, crotolaria juncea, Vigna catiang, Desmodium polycarpam would be more easily controlled, and, while preventing erosion and conserving the fertilizing ingredients in the soil equally as well as Oxalis, would, in addition, draw considerable quantities of Nitrogen from the air.

The growth of cover crops as a means of preventing erosion and of reducing the leaching effects of heavy rainfall is undoubtedly of vital importance on steep lands, and in our opinion is to be infinitely preferred to clean cultivation in such situations.

The best method of treating tea on steep hill sides which we have yet experienced was a system under which no cultivation in the ordinary acceptance of the term was carried out.

The hill-side we have in mind was bench terraced, the width of each terrace averaging 4½ feet, and the height about 20 inches. At the inner side of each bench terrace was a small open drain 9″×9″. The grass and weed growth was roughly cut three or four times a year, and thrown into this drain. Once a year the tea bushes were fork-weeded to a radius of 8 inches from the stem, and, once a year, the small drains were cleaned to the original depth, and the accumulation spread on the terrace immediately above. No manuring had ever been given, and the average yield, as far as we can remember, was about 600 pounds per acre.

To our mind this system was as near to perfection as we could hope to get, in an imperfect world.

Disregarding soil absorption completely, the small drains could ordinarily hold a 1½ inch rainfall.

As rain does not fall instantaneously, and as soils do absorb a large amount of rain before becoming fully saturated, it is unlikely that there would be much run off, unless a rainfall of 4 or 5 inches was experienced, and fortunately this is not a very frequent occurrence. Erosion in such a case would be reduced to the lowest possible minimum. As the height from the top of the bench terrace to the drain next below averages 2 feet, and most of the rain water must percolate through this, the question of cultivation and aeration does not arise—as the water passes down air follows, and nothing could be simpler.

With judicious manuring, no doubt much heavier crops could be obtained, but, as a soil-conserving labour saving and wonderfully efficient method of working ea on steep slopes, this would be hard to beat.

NOTES AND NEWS.

Restriction of Out-put.

The "Ceylon Chamber of Commerce" has wired to the Ceylon Association in London, as follows :—

(1) Tea referring to your telegram of 14th October Control Committee being formed give effect your recommendations restrict year 1921 crop by 20%. Satisfied restriction 10% being effected from 1st September.

(2) Rubber referring to your telegram of 14th October local producers willing to accede your request restriction on estimated normal monthly output from 1st November. Committee being formed control monthly output. Consider essential similar Committees be appointed all rubber producing countries.

On this subject the "Times of Ceylon" is informed, etc. . . . . .

The *Times of Ceylon* is informed that the "Ceylon Chamber of Commerce" is in communication with the Planters' Association, the Low Country Products' Association and Estate Agents Association with a view to having local Committees of Control appointed to deal with the questions of tea and rubber restrictions. It is proposed to form separate Committees, one to deal with tea, the other with rubber. It is suggested that these Committees should be appointed at once, and each should consist of one or two proprietary planters from the Planters' Association, Ceylon ; one or two representatives from the Low Country Products' Association, and three or four representatives of the Colombo Estate Agents' Association. It is hoped that no time will be lost by the respective bodies in appointing their representatives to act on these Committees, and that the meetings of the Committees will be held at as early a date as possible. It is also gathered that the Chamber of Commerce intends, as soon as the Rubber Control Committee has been formed in Ceylon, to cable to London asking that similar Committees of Control be appointed in all rubber-producing countries.

How to destroy large jungle trees.

In clearing the jungle from an estate it is often a great source of trouble and expense to get rid of the large jungle trees. Too often does one see their stumps and roots remaining, a ready centre of fungus infection to the rubber trees just when they are beginning to bear at their best. The following note, taken from the "Indian Forester," May, 1920, may be of assistance to those about to clear jungle. Of course, this method can only be employed whilst the tree is yet living.

"Where it is desired to destroy a tree without cutting it down, a hole is bored in the tree in a downward direction to the centre. For large trees an inch auger is used ; for smaller ones ½ inch size is large enough. For large trees 1 oz. to 2 oz. of ordinary commercial saltpetre (nitrate of potash) is used, and for smaller ones ½ oz. to 1 oz. A plug is put into the hole to keep the rain from washing it out. The nitrate of potash is carried by the sap to the tips of the branches and the rootlets. If the tree is a large one, say 2 feet or more in diameter, very little difference will be noticed in the foliage for 2 or 3 months, then the leaves begin to fall, and it assumes a

bare wintry appearence. At the end of about 6 or 8 months a little brushwood is piled around the tree and lit; it will smoulder away to the remote ends of the roots, sometimes 30 feet away from the tree, leaving the masses of valuable ash ; the tree will fall, and when fallen it will continue to smoulder until every particle is converted into ash.—(A Hand-book of Forestry by A. D. Webster.)

The U. P. A. S. I.

We regret to have to report the illness of Mr. G. P. Walker, Superintendent of the U. P. A. S. I. Labour Department, Mangalore necessitating his absence from work for some time to come. Arrangements have been made for carrying on the work, and constituents should continue to address correspondence to the Superintendent as before. Some subscribers still retain the habit of addressing Mr. Walker by name, and this should, of course, be stopped.

The Labour Question solved.

If a cooly gives you cheek,
And you can catch the giver,
To make him civil heave a brick,
And dislocate his liver.

When he refuses labour,
Or works in a manner airy,
Just knock him down, and while he's there,
Jump on his little Mary.

And any time you find him,
Do what he didn't oughter,
Don't hesitate, but shove him in,
A pot of boiling water.

—SHAKESPEARE JUNIOR.

Ceylon Tea.

Figures of Ceylon Tea exported by rail *via* Tallaimannar to the following stations in South India :—

Cannanore	...	1,200	lbs.
Mangalore	...	500	„
Madras	...	800	„
Tinnevelly	...	50	„
Total	...	2,550	lbs.

These figures are taken from the " Ceylon Chamber of Commerce " Weekly Price Current, dated 18th October, 1920.

Government Quinine.

The Government have reduced the price of the quinine sulphate supplied by the Madras Cinchona Department to medical institutions in the Madras Presidency, from Rs 33 per pound to Rs 18 per pound, with effect from 1st October, 1920.

LETTERS TO THE EDITOR.

(The Planters' Chronicle is not responsible for the opinions of its Correspondents.)

Labour.

Sir,—I have read with interest "Mackay's" letter on "Labour" in your issue of the 23rd inst., referring to my letter on that subject appearing in your issue of the 16th instant.

"Mackay" rightly assumes the objects of my scheme, though he has not quite grasped the actual working of the same. The objects are two-fold. Firstly:—"Advertisement"; and that to take its most potent form in the setting most likely to give its powerful effect, *i. e.*, ready money in the hands of the cooly in his own village; after returning from the estates which have been the direct cause of his prosperity. Secondly, an increase in pay. This will be accomplished, contrary to "Mackay's" supposition, as my bonus scheme is paid to the cooly for every day he is on the estate, irrespective of the work done, or not done.

In my opinion it is essential to raise the wages for men if our estates are to keep in the labour market under present day condition. Rather than give the coolies a definite rise, of say one anna per day pay, on the estates, which would be subject to cuttings, half name, etc.....I would pay it under this bonus scheme, which guarantees payment even when work may not have been done for the whole period for which the bonus is received, hence the term "bonus" is used in framing the scheme. Thus, under the scheme, the cooly is guaranteed his extra pay and bonus; and the estate is guaranteed the best possible advertisement; and, f successful, an increased labour force, and creates for itself an advantage for its labour over labour working in the villages. This system would need vigorous advertisement, close attention, and the continual presence of an European officer in the areas under operation, in order to be given a fair start.

I think the scheme could be extended to the old labour gradually, but should be started with labour from new areas unacquainted with our present system of recruitment. I believe, a belief shared by few I understand, that South Indian Estates need not go far afield to obtain new labour-producing areas. I maintain that such areas lie near their doors, untouched for want of funds to produce the required organisation. Labour is a costly thing, and difficult to obtain too; and labour seekers in our modern days must be prepared to plank down the dibs to obtain the same. Look where you will the world over, that fact is very evident.

But at the same time, before faring further afield to search for new labour, it is up to estates to satisfy themselves that their own houses are in such good order that the labour, when it has once reached them, will be content to stay there.

If new labour put on to estates is found after a short stay there to consistently bolt away, there is something wrong somewhere. Either the treatment received on the estate is not all it should be, or the labour sent up is not of a good type. The former is a matter for estates themselves to look to. The latter for the recruiter; presumably under the new idea of direct recruitment

the U. P. A. S. I. Labour Department. But under the existing system of recruitment it is not possible to shroff labour sent to South Indian Estates; and I believe such shroffing, if made possible, would cut bolting down by 50% for a start.

I would like to see the Ceylon Labour Commission Depot system discussed with a view to adoption. This system is of an undoubtedly high order—this must be so when under it a Manager who has 20 to 30 bolters in the year has just cause to complain, and I think deserves more notice by the powers that be in South Indian planting affairs. But after all is said and done the old adage *re* counting our chickens,etc...must be remembered, and I think a step in the right direction must be two-fold—i. e., measures to find new labour, combined with measures to make the shroffing of all labour possible.

I must apologise for the frightful length of this epistle, and will be very grateful if you can find place for it in your Chronicle.

Yours faithfully,

(Signed) "MADURA."

Armistice Day.

The Secretary, U. P. A. S. I., has received the following communication and enclosure regarding the Armistice Dinner at the Madras Club, on November 11th next. Copies of the letter and enclosure have been sent to those planters' clubs of whose existence we are aware, and we hope that this, and the publicity we now give, will be the means of reaching every planter in South India who served during the war.

Napier's Gardens,
Harrington Road,
Chetput,
28th October, 1920.

Dear Waddington,—I enclose a circular I have sent to all the ex-officers I know, regarding a dinner at the Madras Club on November 11th, at 8-15 p. m.

Unfortunately, I am acquainted with very few of the large number of planters who served during the war, and if you could do anything to bring it to the notice of those interested I should be much obliged.

Membership of the Madras Club is not essential, and we shall be glad to see any men who can join us. If those able to come will drop me a line I shall be obliged, as I must know a few days in advance what the ration strength will be. If those unable to come this time will furnish me with their names, addresses and war services, I will see that they are advised of any subsequent functions.

Yours sincerely,

(Signed) W. H. H. JOHNSTON.

[ENCLOSURE]

Madras,

October 20th, 1920.

A dinner will be held at the Madras Club at 8-15 p. m. on Armistice Day, November 11th, 1920. Will those intending to be presen please notify the undersigned as early as possible? If members know of any other officers or ex-officers who would like to be present, will they kindly forward their names.

Those in possession of uniform are requested to wear khaki (with slacks).

(Signed) W. H. H. JOHNSTON,

Madras Club, Madras.

The Restriction.

Sir,—In your issue of the 23rd October you have published two letters, of diametrically opposed views, on the above scheme.

To put the matter briefly, Mr. Mead is for co-operation : Sir Fairless Barber is not.

Those opposing co-operation have always reasons, which appear to themselves sufficiently good to justify their position. But if those who were chosen to lead the Planting Industry are the first to preach non-co-operation, what hope is there of any continuance of the Associations ; and of what use are the efforts of the London Association.

Rubber producers have, at last, been forced to combine. If tea producers do not do so, many of them will be ruined. Those with sufficient capital to weather the storm, will be in all the stronger position for the squeezing out of the smaller interests, which they will have eliminated.

Yours faithfully,

(Signed) "CO'OP."

SHORT ADVERTISEMENT.

FOR SALE.

Fuller & Johnson's Oil Engine 7 H. P. 400 revolutions per minute combined with Goulds Pyramid Force Pump. 3" suction and delivery, magneto ignition, complete with tools and oil filter. Absolutely new. Can be seen at the Chrome Leather Co., Chrompet, near Pallavaram, S. I. R. Rs. 2,000. No Offers.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE.

(BY CABLE.)

LONDON, 29TH OCTOBER, 1920.

118*s./-* *per cwt. Market Dull.*

HOOKWORM.

BY DR. F. MILTON.

The first article of this series appeared last week.

II

Ankylostomiases (Hookworm disease) being a disease which is contracted through the skin by contamination with soil infected with the embryos of the parasite bred out of the fœces of infected persons, it is necessary to prevent patients being treated from becoming re-infected.

This can only be done, of course, by stopping contamination of the soil by coolies still carrying the parasites, *i. e.*, by preventing infected coolies carrying the parasites defœcating in places where others are liable to come in contact with their droppings, or even with the apparently clean ground from which the actual visible droppings have disappeared, infected soil maintaining its virulence, under conditions of warmth and moisture, for weeks, or even months after all evidence of fœces have disappeared. This

necessitates some form of strict conservancy or sewage disposal, and in view of what has just been said this system of conservancy, to be effectual during the period of treatment, must have been in full working order a considerable period before the campaign is started so that the soil of the estate shall be free of infective material before the clean coolies are turned out upon it. To be effective, gross contamination of soil should have ceased at least six months before systematic treatment of the coolies is begun.

The nature of the conservancy system to be established must vary with the locality the natural features of the country, and the area of land available for sewage disposal. The essentials are that it should be effective, and that it should be simple, and involve as little departure as is possible from the habits and customs of its users.

There are many forms of conservancy, each having its advantages and its drawbacks, the difficulty is not so much in choosing any particular system as in inducing the cooly to use it when it is installed.

I believe the campaign carried on by the Rockfeller Foundation in North Wynaad has had a certain effect in arousing the interest of the coolies and their maistries in the question of hookworm, and the benefits that would result to them if they were systematically freed from their parasites, and, if this is so, the present moment might be a good one to increase the interest among them by undertaking an active campaign of treatment, even although the ground has not been prepared by the cultivation and enforcement of more sanitary habits.

Were treatment undertaken now, and the resultant increased well-being and happiness actually made plain to them, they might by degrees be taken a step further, and in some not too distant future be brought towards sanitary righteousness.

It is to be remembered, however, that in any case, free your coolies as completely as you will from Hookworms, teach them as thoroughly as you can the virtues of elementary sanitation on the estates, yet, when they go down to their own villages and return to their ordinary village life, village customs and village surroundings they will, until the authorities have done their part and have brought this same elementary sanitation to the homes of the people, return to exactly the same conditions as those under which they first contracted the disease, and will be certain of re-infection, for, although an almost impossibly intelligent cooly or maistry be imagined who has so taken his instruction to heart, and is so sensible of the benefit to himself that he resolves on returning to his country to build himself a latrine, and to live cleanly, yet, as long as he is alone in his ideas, and as long as his fellows continue their habits of promiscuous defæcation and fouling of the land, he will be not, or very little more, protected against re-infection than are his fellows.

It follows then that even given an estate, or even a number of estates, whose soil has been freed from infection and where a sanitary system has been installed and is faithfully used by all the coolies, still every cooly coming on to the estate, whether for the first time or whether on return from a visit to his native village, will still be a potential carrier of parasites, and must undergo searching examination, and if necessary complete treatment.

This being so, we seem to have completed a vicious circle, and to be no nearer the eradication of hookworm than before we started, and, indeed, until something is done to clear the village the clearing of the estate is almost hopeless.

Still, since a beginning has to be made somewhere, and since the villages are not in the least likely to begin, it is undoubtedly up to the estates to face

the problem and to tackle it, in the hope that the leaven introduced by them may work, and that in time it may even reach down to the depths of the mixture and start new and better conditions in the villages and on their least enlightened inhabitants.

In each new problem that has confronted the Planting Industry, the planters have seemed inclined to turn outside themselves for help, but I know of no case in which effective outside help has been forthcoming, and it has always been that, in the end, having been thrown back upon themselves, the planters have got down to the job on their own, and have come through triumphant, and I have not the least doubt that, in the present case, almost hopeless as it looks, and incapable as the problem seems to be of solution, unless the villages are brought under control as well as the estates, still the planters will, at some moment not very far distant make up their minds that they must fall back upon themselves, and when they do they will settle the job all right, in the same way as they have so many others.

The plan, of installing latrines and submitting all infected employees to a systematic and thorough course of treatment until they are all cured, are healthy themselves, and no longer a danger to anyone else, is undoubtedly the ideal plan, and in the end the one that should be striven after. Unfortunately, as we have seen, the ideal is practically unattainable at present, and, as long as there remains in existence an unlimited reservoir of infective material to which the employees return every year and from which new heavily infected and infective recruits are being constantly drawn examination and treatment is unending, and Sisyphus himself might dread the task.

Is there then no way round, since frontal combined attack is hopeless? I think there is, and I think salvation will be found to be in the very fact that examination and treatment must be accorded to every new or returning cooly that comes on to the estate.

Get your estate as far as possible into good sanitary order, instal your latrines, and, as far as possible, enforce their use, preach sanitation and the dangers of filth to the more intelligent of your employees on every possible and reasonable occasion, reduce the chances of infection upon the estate to the smallest possible limits, drive into the cooly, by the test of his actual experience, the difference between a sick anæmic cooly and a healthy full-blooded one, but do not hope to eradicate Hookworm from India. Let India sweat under her own rulers, cast your bread upon your own little ponds and peradventure you shall get the surprise of your lives, and find you have unwittingly cooked the entire goose.

To eradicate Hookworm, as we have seen, it is necessary not only to cure your coolies, you must also cure the soil of your estates, and then keep both these cured by preventing the access to them of new infective material.

We have seen that it is possible to cure the individual cooly with comparative ease and certainty. We know that there are ways of so dealing with the infective material elaborated by diseased coolies as to render it harmless to others, and we hope that we may in time induce the coolies to adapt themselves to these new ways, though we recognise that this will be difficult, but at the same time we realize that, in spite of all we do at one end, as long as the villages and the inbred customs of their inhabitants are uncontrolled the prevention of constant re-infection of our coolies is impossible.

What then can we do?

To leave our particular subject for a moment, and to turn to general medicine, we shall there find that there exists a general and universal law that, though no disease can be entirely abolished, still, provided the amount of infective material present can be kept below a certain limit, only scattered

cases of the particular disease will occur, there will be no general infection, and the disease, although harmful to the few victims attacked, becomes harmless to the general population.

The germs of all the common infections—fevers, typhoid small-pox, and so on are constantly present among us, especially in an Indian bazaar, but as long as the number of these germs are relatively small no general infection will occur. Take the case of malaria as an example. There may be a district ravished by malaria, where outbreaks among the imported labour are constant, and where during the worst months of the year practically every cooly is attacked.

It is decided to try and eradicate the disease, and a fellow is sent along to do it.

The medical man sent, if he knows his job, knows that he never can eradicate the disease, that he cannot exterminate all the anopheline mosquitos in the jungle, and that he cannot prevent the constant re-introduction of infective material, in the bodies of malarious coolies from the plains, being brought to the surviving mosquitos for propagation among his healthy coolies, but he does know, since records and his own experience have taught him over and over again, that, if he can reduce the numbers of his mosquitos to a certain minimum, infection will diminish among his people, and that, if he can, by introducing a good water supply, good food and some degree of cleanliness in and around his lines, improve the health and thereby the strength, and through this the resistance (to disease) of his people, the minimum number of infective mosquitos he can afford to have knocking about his district can even be allowed to rise. By persistence, then, in mosquito reduction and health improvement, malaria can be suppressed, although there will always be a certain number of active cases in the shape of uncured carriers constantly coming into the district from outside, and a reasonable number of mosquitos ready and willing to convey the disease from and to whom they may, and to bring about a recrudescence of the disease should vigilance be relaxed.

There is another rule which applies to disease caused by animal parasites (such as are hookworms) more than to general medicine, and that is that, in countries where animal parasites are common and a majority of the population harbours them continually, persons may bear a comparatively light infection without feeling any evil results, or indeed being unconscious that they are not in perfect health.

What holds for malaria and germ reduction generally holds for hookworm, but in the application of the law there is this difference between the two diseases. The malaria parasite needs two different hosts for its propagation, the mosquito and man, abolish either of these hosts and malaria vanishes, in practice the mosquito host is abolished and man is left free, but in hookworm only one host is needed, and he being man, the person it is our object to preserve, he cannot be abolished, and the chain of reproduction of the parasite cannot be broken by removing a link, but, whereas the reproductive stage of the malaria parasite in the mosquito cannot be attacked except by abolishing its host, the reproductive stage of hookworm in man is open to attack by drugs, and the number of the actively producing parasites thereby kept in check.

Since we can check the numbers of parasites in the human body by treatment, if only we can enforce this treatment right up to the point, the minimum at which the parasites cease to be in sufficient numbers to spread, we shall be in the same position as the man who controlled the malaria

neither he nor we have succeeded in eradicating our particular disease, but we have both brought them to a po'nt at which they are no longer dangerous. We both have inflammable material in our neighbourhood, and fresh material of the same nature is frequently being brought in to both of us, but as long as we are able to maintain control, and as long as we are able to recognise, gather in and destroy the new material our districts will remain potentially free from the disease, and our object will have been obtained, in spite of the disease not having been " eradicated."

The method of bringing the disease under control is comparatively simple if, and when, we get the cooly to accept it. It means the systematic examination and treatment of all coolies on their first arrival on the estate.

To begin with, and whilst we know that we have a cent per cent infection, all arrivals may be treated without examination, but, as conditions improve as they undoubtedly will, in an incredibly short time, a system of examination will have to be instituted to avoid unnecessary inconvenience to the coolies, to do away with excessive cost in drugs, and to differentiate and cultivate a new caste among the coolies, those who are clean and maintain themselves clean from those who are unclean, and in all justice " Untouchable "

The method of procedure would be that a gang of coolies coming up would be segregated on arrival, they would have their preliminary purge the evening they arrive, or the next evening, and their treatment the following day, after which they would pass into the labour force of the estate.

It would be advisable to examine them and give where necessary a second day treatment 10 days later, but further treatment would probably be unnecessary though, unless the coolies were very adverse, it would be desirable.

This method, if the coolies are willing to adopt it, is simple in the extreme, and if systemat cally carried out will, I am convinced, w thin one year enormously increase the efficiency of the labour, and within two or three years so reduce the amount of infective material that a reduction in the number of cases even in the village from which the labour comes will have begun.

There is one warning to add ; in dealing with drugs capable of destroying animal life in the shape of worms in the intestine, you are dealing with drugs which are also capable of destroying the life of the host of the parasites. Either of the drugs usually employed in the treatment of hookworm has its own advantages, but each also has its own dangers. In all extensive campaigns some cases of illness, and in almost all some cases of death, directly due to the action of the drug employed have been recorded. It is therefore absolutely essential that the treatment of hookworm on any extensive scale shall only be confided to a properly qualified registered medical man, and *not* to the ordinary estate compounder If a fatality occurs under the administration of a qualified man who has taken all proper precautions before giving the drug,and who does everything suggested by his art to relieve the man where symptoms appear, the death is the act of God, but if a fatality occurs under the administration of an unqualified man the death is manslaughter.

And, here a word as to the medical organisation of estates, realising as we must do that we live in a country insufficiently supplied with doctors from end to end, a country scourged with preventable diseases. I still think that the planting community is even worse provided than any other even here, to think of the numbers not only of valuable humble lives, but also of well-nurtured women and children, young mothers and infants hopelessly distant from all medical aid except such as can be rendered by unqualified,

and necessarily incompletely educated compounders, and to realise what sudden emergencies may and do arise needing the utmost and most highly trained skill to deal with them, is a never ending nightmare to the instructed, and it is incredible that men insufficiently educated to realise the risk, they, their wives and their children run should consent to live under conditions such as exist, and almost more incredible still that great companies, able to afford to pay, should send out men and women without making provision for their medical protection.

Commercially, as much depends upon the health of the staff and the labourers as upon the health of the tea bushes, yet no money is spared in securing a good V. A. to watch the latter, whilst a compounder on Rs. 40 a month is regarded as sufficient for the former. There is no comparison between the complexity of the diseases of man and of the tea bush, and yet a man with a life long training is put to look after the one, and a boy, whose only training has been in mixing drugs, is left to deal with the other.

When a V. A. is wanted, neighbouring owners combine and find it worth while to put up suitable pay for a first class man, when a medical man is wanted combination is not considered, and a second or third class man is employed (the Anaimallais are outside all this as are my own people, all honor to them). I cannot conceive a large district with a cheap V. A, but I can well imagine a large district with two or more considerable companies (where amalgamation for medical purposes would enable them to provide a first class man on first class pay) remaining unamalgamated, the smaller estates unprovided for and the bigger ones with the sort of medical supervision which can be purchased at cut rates.

Ankylostomiasis, malaria, and any other preventable disease can be dealt with and kept under control by planters, as by any other organized body of sufficient magnitude and enterprise, but only on the terms of giving good pay for good work.

Coonoor. FRANK MILTON.

COORG PLANTERS' ASSOCIATION.

Minutes of a Quarterly General Meeting, held at the Bamboo Club, Pollibetta, on Monday the 18th October, 1920 at 2 p m.

PRESENT :—Messrs. W. M. Ball (President in the Chair), Scholfield, Gerrard, Bracken, Shaw, Jackson, Parsons, Grove, Clarke, W. R. Wright, Tipping, Maclean, Macrae, Egerton, Mahon, Morgan and A. J. Wright (Honorary Secretary).

The Secretary read the notice convening the meeting. The minutes of the last Annual General Meeting were taken as read, and confirmed.

Mr. I. S. H. Morgan was elected as a Personal Member.

The report of the Delegates to the U. P. A. S. I. Meeting, who were accorded a vote of thanks, is as follows :—

"Mr. Chairman and Gentlemen,—In accordance with your instructions, Mr. Mahon and I attended the U. P. A. S. I. conference, held in Bangalore, 23-26 August."

" The early publication of the Book of Proceedings, of which we hope you have all obtained a copy, entirely does away with the necessity of a lengthy report. The Executive Committee's report (pages 3 to 15) gives you a *resume* of the past year's work."

"The Chairman's speech (pages 15 to 18) brings home to us all what every thoughtful man must be feeling to-day, and though it is hard to break away from cherished customs and methods, in these quick moving times, we must get together, and move along, or be left."

"RAILWAY.—Our resolution (which was seconded by South Mysore P. A., 'page 23') on the Coorg branch Railway, was intended to keep the matter before the Government, as the line has no place in any of the projected construction schemes."

"ROADS AND COMMUNICATIONS.—Our resolution on this subject (page 69) was also seconded by South Mysore Planters' Association, and like the railway resolution carried unanimously."

"LABOUR DEPARTMENT.—Your delegates brought forward the question of raising the class and standard of the Indian Agents. It will be seen from the separately printed report on Labour matters that, beside the resolution recommending raising the rates of subscription 2 annas per acre, a scheme for direct recruitment of labour in new areas was started."

"S. I. PLANTERS' BENEVOLENT FUND.—(Pages 87 to 90). This fund, and the administration of it, was fully discussed, and the consensus of opinion, whilst supporting all grants made from this fund in the past, agreed that certain amendments of the rules were needed. That Honorary Secretaries should do more to bring this very useful fund before members of their Associations. That once a subscriber, such subscriptions are compulsory unless resignation is formally tendered. Resolutions were passed, empowering the General Committee to amend the rules for the guidance of the Executive Committee."

"That the amount of subscription to become patrons be raised to Rs. 1,000 (retrospective). That the Secretary be empowered to collect the Annual Subscription by V. P. P."

"S. I. P. WAR FUND.—(Page 93), The surplus money, after paying Rs. 50,000 to the S. I. Nursing Association and payment of all present liabilities, be transferred to the S. I. P. B. Fund and capitalised."

"We have only touched on the subjects on which we had special instructions. If there are any questions members would like to ask, we shall be glad to give all the information we can in reply."

(Signed) P. G. TIPPING,
(Signed) E. L. MAHON,
Delegates.

A letter from the Commissioner of Coorg was read, in which it was suggested that the post of District Magistrate be abolished, without disturbing the administrative energy or the efficiency of the administration.

The Committee having met to consider this important matter, the following letter was drafted, which the Secretary was instructed to send to the Commissioner.

C. A. Souter Esq., I. C. S.,
Commissioner of Coorg,
Mercara.

Sir,—Replying to your letter No. 1872, dated the 6th instant, we have the honour to inform you that the Coorg Planters' Association emphatically protest against the suggested abolition of the post of European District Magistrate in the Province of Coorg, for the following reasons:—

1. We consider the Revenue and Judicial Departments should be kept separate and distinct from one another, as we believe has been the custom hitherto.

2. Considering the enormous amount of capital invested by the planting community, both European and Indian, and the present disturbed state of labour by the new labour laws, the services of a European District Magistrate are most essential.
3. It having been found necessary to have a District Magistrate from the past to the present, this is not a suitable time to do away with the office.
4. The revenues of Coorg are well able to support this very essential office, and the saving would be negligible.
5. In short, we are of opinion that the abolition of the post of District Magistrate and the feeling of insecurity engendered (in support of which we would draw your attention to a letter, dated the 17th June last from the European Association to the Right Hon'ble D. Lloyd George M. P.), would jeopardise and depreciate both the position of the individual European and his capital investments in Coorg
6. We respectfully request that you will forward this to the Chief Commissioner, with a request that nothing shall be decided until we have had the opportunity of placing our views before the Government of India.

We have the honour to be, Sir, Etc."

This letter was read at the meeting, and met with the cordial approval and support of the members. A resolution to that effect, by Mr. Bracken, was carried.

ROADS.—Mr. H. T. Shaw commenting on the Ponampet-Kutta Road in detail, said that the opening of this road was sanctioned in 1896, and it still remained practically a "dry weather" road.

During the monsoon, owing to it being unmetalled, parts were very bad, especially for 4 miles and 7 furlongs, in fact unpassable for anything but very light traffic, although the traffic is considerable to the West Coast. It is understood that, about Rs. 60,000 is sanctioned for the upkeep of this road. Faith Estate coolies could not work to the D. P. W. scale, owing to the rate of estate wages having largely increased during the past seven months. A tender submitted could not be accepted, as the work would have been done at a loss. This gentleman brought his speech to a close with the following resolution, which was carried :—"That the Coorg Government be requested to put the Ponampett-Kutta Road for the 4 miles 7 furlongs, as stated in good order at once, so that heavy traffic may go over it—not only cart, but motor traffic."

Other roads adverted to were :—

THE ABBEY ATTYMANGALA—FRASERPET ROAD, which was bad about half-way. There is metal ready, but it has not been put down.

THE SUNTIKOPPA—SIDAPUR ROAD, which those using it would wish to see metalled, as it carries a heavy coffee traffic during the season.

THE SITTUMUTTY BRIDGE.—Mr. Mahon, speaking to a resolution, asked that this be taken in hand at an early date, the approaches widened, and the bridge shored up, as had been suggested, to take motor lorries—or, if this could not be done in time for the coffee season, a deviation made for the time being.

THE SIDAPUR—POLLIBETTA ROAD.—That this be metalled on the worst parts, to allow of traffic during the monsoon ; at times it is impassable.

TRANSPORT AND CARTING RATES FOR SEASON 1920-21.—Much was said on this subject. Contractors contended that they made a big loss last season ; members could not understand how they had done so, except possibly by counting in the profits they anticipated making. The feeling of the meeting was that the Coast Firms were working in our interest by endeavouring to reduce the rates demanded by contractors, and a resolution was carried :—" That this Association will support the coast firms in any way possible to keep the rates of carting of coffee, and of up loads, down."

Some correspondence was read regarding the sharp bends on the Verajpett Ghaut Road, which would have to be altered before motor lorries of any tonnage could negotiate them.

COORG WAR MEMORIAL.—The Committee now have enough funds to put this in hand. It should again be explained that subscriptions are not confined only to the C. P. A. Members, but the invitation is extended to all, to make the memorial one worthy of our Coorg men who fell. The list closes at the end of November, and those who have not yet entered the list, have still time to do so.

PROCEEDINGS at COMMITTEE MEETINGS.—Mr. Bracken put the following resolution before the meeting :—That, at future General Meetings any particular item of public interest that may have been brought up before the Committee, be read before the General Meeting, with the Committee's decision thereon."

HOOKWORM CAMPAIGN.—It was decided that the Association assist the Civil Surgeon as far as possible in this, and that he be asked to inform planters where thymol may be bought at cost price, and that Sub-Assistant Surgeons be instructed to administer the drug to estate coolies.

With a vote of thanks to the Chair the meeting ended.

(Signed) W. M. BALL, *Chairman.*
(Signed) A. J. WRIGHT, *Honorary Secretary.*

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, on 12th October, 1920.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION, LONDON.—Letters, dated 9th and 16th September, 1920, from the Indian Tea Association (London) which had been circulated, were now to be recorded. The principal subjects dealt with were :

(*a*) *Restriction of Crop.*—These letters explained the deliberations leading up to the despatch of the London Committee's cable of 8th September, 1920. It was noted with satisfaction that the Ceylon and South Indian Associations in London had recommended immediate curtailment of production, and that negotiations were in progress for similar co-operation with regard to Java teas. The London Committee were meantime collecting replies from London proprietors of Indian gardens in the matter of the reduction proposed for Indian teas.

(*b*) *Restriction of shipments of tea from India.*—In noting the London Committee's advices explaining their telegrams regarding Manchester shipments, it was decided to bear these in mind, with a view to deciding what action should be taken in regard to a further large order which was reported to have reached the Calcutta market.

PROPOSED RESTRICTION OF CROP.—The position of proposals in the above connection was last referred to in the proceedings of 28th September,

1920, wherein members were informed of the action taken by the Committee to ascertain the views of Indian controlled concerns in regard to the London Association's proposals as outlined in circular No. 59—1920. Following on the issue of this circular, a further cable, dated 27th September, 1920 was received from the London Association in the following terms :—

"Following resolution passed unanimously to-day, *begins* that the Committee recommends that the crops for this year be restricted to not more than 90% of the average crops produced in the years 1915 to 1919 or, as an alternative, that proprietors should cease plucking on the 15th November 1920. Further, that the crops for the year 1921 be limited to not more than 80% of the average crops produced in the 5 years 1915 to 1919 inclusive, provided that the proposed reduction for the year 1921 is supported by at least 85% of the industry, *ends*. Understand resolution will be acted upon immediately. Strongly urge support. Telegraph decision arrived at by your Committee. Ceylon Association passed following resolution unanimously to-day, *begins* that it is incumbent upon all proprietor to take steps at once to reduce their production, in view of the present low prices of Ceylon tea in London which are far below cost, *ends*. Ceylon Association are ascertaining what support is likely 20% reduction in year 1921 Ceylon crops."

To which the Committee replied on 2nd October, 1920, as follows :—

" Your cable 27th September. Restriction of crop Committee support your proposals and are urging all members to agree. Presume, as regards 1920, alternative proposal left to discretion of individual members. Will cable to what extent scheme supported by Indian controlled concerns."

The London Association's cable was also transmitted in full to the Branches and local Associations for their immediate attention ; and members of the Association received full particulars in circular No. 60, dated 4th October, 1920, which called for replies giving the figures and decisions required.

The Committee now examined the file of replies to circulars 59 and 60, and they are pleased to be able to report that a very encouraging response has been received from members regarding the proposals for reducing 1920 and 1921 crops. Replies from a few of the larger agency houses were still outstanding, and it was decided to obtain these before giving a definite reply to the London Association. In the meant me, it was noted that most of the replies which had been received, had agreed to the proposal , provided equitable allowances were made for (*a*) new gardens, (*b*) old gardens with large extensions, and (c) gardens giving a small yield per acre. The recommendations of the London Committee on these points have been requested, and in this connection the attention of the London Committee has been directed to the proceedings of the Conference in Calcutta on 15th August, 1917, when proposals for the restriction of the 1918 crop were discussed with representatives of the Branch and local Associations. The Committee were inclined to think that the recommendations of that Conference might be made applicable to the present proposals, and they have passed this suggestion on to the London Committee for consideration.

PROPOSED RESTRICTION OF SHIPMENTS OF TEA FROM INDIA.—As arranged at their meeting on 28th September, 1920, the Committee reminded the Calcutta Liners' Conference of the arrangement made by their representatives at the meeting on 14th September, and they asked for an immediate reply as to whether the Conference had decided to co-operate with the Association in connection with the London Association's proposal for the restriction of shipments to 5% monthly of the 1920 estimated crop, for the

three months commencing 1st October, 1920. Pending receipt of a reply from the Conference, a telegram dated 28th September had been received from the London Association in the following terms :—

" Referring to my telegram of 6 h September is proposed restriction of shipments being generally supported telegraph."

A copy of this telegram was passed on to the Calcutta Liners' Conference, whose reply, dated 2nd October, 1920 made it clear that their co-operation could not be secured. With this position before them, the Committee examined the statistics of shipments from April, 1920, to the end of September, 1920, and they were pleased to note that the average monthly shipments over that period were below the 5% margin which had been recommended. The average shipments for the three months, July, August, September, however, showed a slight excess over the 5% margin, and this position was explained to London in the Committee's cable of 7th October, 1920, which was in the following terms :—

" Restriction shipments Conference reply Lines issuing individual instructions to Calcutta agents but from instructions received apparent Conference will not co-operate with Association to enforce restriction. Average monthly shipments July, August, September exceed slightly restricted quantity suggested. Committee circularising members and requesting them to continue restricting shipments to the 5% margin."

The reply of 2nd October from the Conference was embodied in the Committee's circular No. 62, dated 7th October, 1920. which impressed upon members the necessity for restrictive action, and invited them to advise the Committee whether or not they were prepared to restrict shipments to the 5% margin between 1st October and 31st December, 1920. Several replies agreeing to restrict shipments on the lines proposed were considered by the Committee, who noted these with satisfaction, and decided to await further replies before explaining the position to the London Association.

The Committee then considered a reference from the Agents of the Inland Steamer Companies inviting an expression of opinion on the prospect of improved shipments of tea. The Agents reported that the tea sheds were full, that they had 69.000 chests afloat at the sheds, and that, unless there was immediate improvement in shipment, they would be compelled to stop carriage with immediate effect. In connection with this reference the Committee thought it would be well to obtain from the Inland Steamer Companies a statement showing the names of the firms, with the quantities of their teas that were blocking the sheds, and the Secretary was instructed to act accordingly.

Restrictions on the export oe tea from the United Kingdom. —As arranged at their meeting on 14th September, 1920, the Committee wrote to the Commerce Department of the Government of India, urging the immediate necessity for further representations to be made to His Majesty's Secretary of State for India for the removel of all manner of control over tea exports from the United Kingdom. From the Commerce Department's reply of 29th September, 1920, the Committee noted with satisfaction that the Government of India had supported the Association's representations to the Secretary of State for India. The Committee have since learned, from the same source, of the arrival of a cable from the Secretary of State reporting that all restrictions on the export of tea have been removed. Copies of the correspondence had been passed on to the London Association, and to the Ceylon Chamber of Commerce for information, and the position was now to be recorded.

NOTES AND NEWS.

Tea.

In Mail week the market was again largely supplied, and a considerable quantity of tea was withdrawn at auctions. There was a good demand for the better sorts, but the lower grades were easier.

Coffee.

Costa Ricas have been distinctly firmer, and the enquiry from the provinces has been good. It is to be regretted that the grading of many of the Nairobis is so unsatisfactory that it is impossible to obtain an even roast, and this causes some buyers to practically neglect them. Planters would be well advised to pay more attention to this matter in their own interest, as well as that of the trade Colombians, Salvadors, and Guatemalas are neglected, owing to the restricted export trade. Ugandas continue to sell freely, and are most useful for grocery purposes. There was some prejudice against them owing to many of them be ng "earthy," but this was during, the war, when most of the planters were on active service, and the estates were more or less under native management. With the return of the planters this was quickly remedied, and the Ugandas of to-day are totally different to those of two or three years ago.—" Produce Markets Review."

Rubber.

Imports have again considerably exceeded deliveries, with the result that the London stock in mail week was over 36,000 tons.

The U. P. A. S. I. Gazette.

As an addition to the Gazette, we publish the name and address of the Secretary of the South Indian Association in London, *viz.*, W. H. Pease Esq., 21, Mincing Lane, London E. C. 3. Planters going home will be glad to take a note of this rendezvous, where they will receive a hearty welcome.

Inter-District Sports.

Nothing further has been heard of the suggestion to hold inter-district sports. We had hoped some ingenious person would have by now evolved a scheme, which, we would have been glad to publish in these pages for criticism.

The Tea Restrictions.

Our correspondence on this subject is again heavy, but not, we are glad to say, voluminous. All the letters which have appeared are refreshingly to the point, and are of the greatest interest at this juncture. Judging from the minutes of the Indian Tea Association, there would appear to be every chance of the tea producers following the lead of their brother planters, who have decided to restrict the output of rubber.

Re Export of Tea from U. K.

We alluded to this matter last week, and are glad to note that at last all restrictions on the export of tea from the United Kingdom have been removed.

Rubber Restrictions.

The Rubber Growers' Association issues the following notice regarding the recent proposals for the restriction of rubber production, under date 6th October, 1920: —

"To all producers of plantation rubber: With reference to my circular of September 24th, I am instructed to inform you that, while the Council cannot, at this stage, foreshadow how long it may be advisable to reduce output, the words " This assent is not to be binding beyond December 31, 1921 " are being added to all forms of assent.

Yours faithfully,

(Signed) FRANK G. SMITH, Secretary."

LETTERS TO THE EDITOR.

[The Planters' Chronicle is not responsible for the opinions of its Correspondents.]

Travancore Labour.

SIR,—It may be of interest to Travancore Planters to hear of the activities of the Ceylon Labour Commission in Travancore—a region hitherto unexploited by the C. L. C. The Ceylon Government have a colonization movement afoot just now, and require 1 000 men, women and children—only family coolies are recruited—which they propose to get from Travancore alone, and I have no doubt that there will be little trouble in procuring this number, and more if required. Several hundred coolies from Nagercoil, Trivandrum and Quilon have passed through the Ceylon Labour Commission Agency here this month. The Salvation Army in Travancore are the main movers in the recruiting of this labour for the Ceylon Government, and the class of cooly passed through up to date is a fine specimen of the Travancore cultivating class. The Ceylon Government are offering the settlers 5 acres of wet land, 3 acres of dry land, and financial help to the extent of Rs. 500 per family, the land to become the property of the settler after 5 years on payment of a nominal sum. The number of coolies required by the Ceylon Government will make little or no difference to estate labour, but what I wish to call attention to is the excellent advertisement this is for Ceylon, and it comes just as the C. L. C. is about to commence operations in Travancore, to recruit labour for Ceylon estates.

Yours faithfully,
"DAGA."

Tea Restriction.

Palapilly P. O.,
30th October, 1920.

Sir,—With reference to Sir Fairless Barber's letter in your issue of the 23rd inst., and the editorial on the same subject in the same week's publication, I see from the latter that the position is even graver than I suspected. To my mind the people who are primarily to blame are the Brokers Association, in not giving producers any warning until the whole bottom had dropped out of the market. To the very last they assured us that, though stocks were undoubtedly high, the position was sound.

There were doubtless a certain number of virtuous people who always made good tea (presumably because they thought it paid). There were undoubtedly a certain number of people who went in for making muck teas, (presumably for the same reason), but the majority of planters plucked good commercial leaf, and their teas were classified as sound useful teas, suited to the London market. As an instance, the place I am interested in, in 1919, made a profit of £10 an acre, and in January this year, when I saw that there was going to be a slump, though the London brokers (bless them) were still advising us that the position was sound, I insisted on finer plucking and careful manufacture.

The point is that the situation is so bad that, unless combined action is taken, not only the guilty, but the innocent are going to suffer for years.

As for the "muckmakers," surely they have suffered enough for their mistake, many places must have lost two average years' profits in the first 6 months of this year, judging by the tea sales I have seen. I have seen the accounts of an up-country place in Ceylon which, in spite of averaging 1/6, only made ½d a pound profit, so the reward for virtue is not always what it should be.

If there could be some way of having tea passed for export, and only allowed to be shipped if decent leaf, it would undoubtedly be a great thing

for the industry, but fine plucking alone will not save Sir Fairless Barber's interests or mine from having more lean years ahead than I care to think about.

Of course in every slump the Brokers tell one that there is nothing right with the produce they handle, but that is only human nature.

Restriction is necessary, and the best way to restrict is to take a percentage of tea out of plucking. If there is a clause that estates which have averaged, say, 1/6 for the past three years are exempted, I am sure I, for one, would not object.

I am Sir,
Yours, etc.,
A. H. MEAD.

Restriction of Tea Production.

Dear Sir,—With reference to Mr Mead's letter, would it not be possible for all District Tea Associations to send in monthly crop figures in future, which would show exactly what restriction was being carried out?

In some cases I know of personally, unfavourable weather, *helopeltis*, no manuring and finer plucking have made a tremendous difference, equivalent to a 40% reduction in September and to 60% in October, on 1919 figures; pretty useful surely!!!

The S. I. A's proposal of 20% on the average crop of the last three years will very likely amount to the equivalent of at least 30% on *1919* figures.

Ceylon and the Indian Tea Association wish to take the last 5 years as their basis. I think, this may quite possibly come to a 40% reduction on last year's figures; after all it is the action taken by them that will really matter. Ceylon, one hears, is stopping manuring, so that if this is at all true generally (considering estates over there have been spending 6 cts. a lb. on manure), the reduction effected in crop will be very much more than 20%, will it not?

It is quite true, unfortunately, that there has been a good deal of coarse plucking in the last five years, but one very much doubts if the majority of the teas made were anything like as bad as the Grocer's magazine you quote makes out. A very little stalk in a tea spoils its appearance unfortunately, but does not mean that it is not fit for human consumption, or is otherwise carelessly made, as Sir Fairless Barber would have us believe. Such teas in fact very often possess a strong liquor, and are very pleasant to drink. Stalk alone is not objectionable any way. Tea grown lower than 4,500 will never have much flavour or quality, no matter how well it is manufactured, and it has never, therefore, paid us "common tea growers" to go in for quality in preference to quantity, and it will not pay us now either, all that it will do will be to enable us to avoid a loss (and even that is doubtful) whereas the "fine tea grower" (above 4500' elevation) will be able to make quite decent profits. There is moderation in all things, of course, and while it is almost impossible for teas grown at lower elevations to be free of stalk and coarse leaf at certain periods, when growth is so rapid that the only way to make pretty teas would be to abandon at least 25% of the estate, still there has certainly been too little attention paid to appearance altogether. We can only hope, however, that the finer plucking now undoubtedly being adopted all round over here, and the proposed restriction in N. India and Ceylon, will have the desired effect on the market, but it will all take time. It is difficult to make sudden large reductions in crop without paying off labour, which obviously, or presumably at least, cannot be done until advances have been recovered; meanwhile sufficient tea must be retained in plucking to give work to coolies However,

if the suggestion with which this letter opened can be adopted (*i. e* District Associations to send in monthly crop returns), we shall know exactly where we stand and what further restriction, if any, is desirable

There is one point which seems to require clearing up, and that is how it is, with such large stocks of tea in warehouses at home, some estates one knows of have out of (say) only 12, invoices of 1920 tea shipped this year had *at least* 8 *invoices already* sold ? There does not seem to be much congestion in such cases certainly. One thing is sure, and that is that we have all only to make a real effort to pull together to come through without disaster. Are we going to make it ?

"X."

Tea Out-put Restriction.

Dear Sir,—I have read, with no little interest, Mr. Mead's and Sir Fairless Barber's views.

Tea producers at the present moment must be seriously considering, not only the present position, but the prospective future of their industry. Those who have studied the position of stocks in the home markets can but admit that the immediate future out-look is no brighter than that of the present. I, for one, do not anticipate any great relief under two years, without demand exceeds supply and accumulated stocks get worked off. I suffered financially during the last tea crisis, and think it lasted for 4 years. Good teas during that period were fetching from 5*d*. to 6*d*. per lb. There is now, as Sir Fairless Barber writes, a very much greater margin between the good and the bad. Those Planters who have made their estates marks, known as a "Guarantee of a first class article" could possibly tide over evil days even if their cost of production went up to 8 annas or more F. O. B., but it takes time to whitewash a bad name.

There is no doubt which of the two classes must benefit most by restriction, and I support Sir Fairless Barber in all that he writes regarding this, but at the same time I think "Restriction" in some form or other "a necessity."

There must at the present moment be a great quantity of rubbishy tea in second hands at home, not in the hands of inexperienced speculators, but in those of sound business men. A campaign has already been started at home." The booming of the 1*s*. 10*d*. packet". The average purchase price of this tea mixture in Mincing Lane, if the Blender and Retailer expect to make any profit at all, could not have exceeded 6d per lb ; if it catches on, will the high grade article suffer in price ; if it does restriction of out-put becomes a necessity in the interests of all. We have heard a good deal lately of the high price of "Tea Blends" being sold at home. I recently had the opportunity of tasting and examining two samples, one priced at 3*s*. 6*d*, the other at 3*s*. The first was a mixture of B. O. P., B. P., and Fannings, the second a mixture of B. P. and Dust. These were not 'Muck,' but good sound teas,

Has the "Muck" producer anything to his credit ? "Yes," he has given more towards the "Indian Tea Cess Funds" than I have, for one. I made a suggestion, which at the time was considered frivolous. I make it again, that the Indian Tea Cess should cut down its expenditure to the lowest limit, and use its funds in buying up all the "Muck Stocks" it can, and sink them in the sea. After that, I hope England, anyhow, will insist on *Standard Quality*.

I agree with Mr. Mead that the soundest form of restriction "is on an acreage basis."

I apologise, Mr. Editor, for the length of this letter, but I seldom write to your paper, so do not err often.

Yours faithfully,
(Signed) J. S. NICOLLS.

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Managing Editor, Coimbatore, S. India.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE

(BY CABLE.)

LONDON, 5TH NOVEMBER 1920.

115s./. per cwt. Market continues very quiet.

THE RESTRICTIONS.

A correspondent draws our attention to the following paragraph appearing in the London "Times" of 12th October last :—

> "The lot of the tea planter gives no sign of improvement, and it will be surprising if the scheme for output restriction does not meet with general endorsement in India and Ceylon. Indeed, some debate is proceeding as to whether the more unfortunately placed plantation companies would not be well advised to close their gardens altogether for, say, a year. Quite a number of smaller concerns, particularly those working in Cachar and Sylhet, in India and some of the lower lying portions of Ceylon, produce practically only common teas. These teas cannot be sold at a profit under existing conditions, and there seems little or no prospect of any profit being obtainable in the immediate future. It is, therefore, hardly to be wondered at if the suggestion is being heard that companies in such a position should consider the question of whether they wouldnot, in the end, be gainers by

> a temporary suspension of operations. Even in the case of plantations producing the finer grades, the conditions prevailing in the market are exerting a weakening effect on their position, for the slow sale of tea is tending to diminish their capital resources. While, momentarily, some little relief was felt by the removal of the license system of exports, the fresh shipments coming forward have swamped any good effect thus produced, and less is now heard of expected assistance from this direction."

It will be seen that this paragraph deals with the very points which we and our correspondents have made when dealing recently with the question of restriction of output of Tea. This talk of suspension of operations is a recurring feature of current news from Ceylon and elsewhere, and we have heard rumours of large numbers of estates closing down, thus throwing out of employment hundreds of Superintendents, and a proportionate number of coolies. There is no doubt more than a suggestion of hyperbole in this, though an Associated Press telegram, dated Colombo 9th November, states that within the last few days three or four small low country tea estates have been compelled to close down completely in consequence of the grave depression in the Tea trade. Incidentally, we read of strong representations in Ceylon being made to Government to abolish the export duty on Tea, and it will be seen from the proceedings of the Indian Tea Association that the U.P.A.S.I. resolution to this effect has been strongly taken up by our powerful North India friends with the Imperial Government. Another point put forward by our Ceylon contemporaries, is the difference in freights from Calcutta and Colombo to London, the former is put at 105 shillings net against 143s. 6d. net from the Island. The freight from West Coast ports is, we understand, 150s. accentuating the grievance which South Indian planters have in this matter. It does seem an anomaly that rates should thus differ when, obviously, a common rule would place all British tea producers on an equality, and we are rather surprised that the Associations in London have not, before now, made capital out of this obviously unfair treatment of Ceylon and S. India interests.

We were reading the other day, in a home journal devoted to the Rubber industry, an article concerning the formation of a Rubber Bank. A sentence in that article which we shall use presently struck us as being particularly appropriate to the Tea, Rubber and Coffee industries of this country, indeed of the East. It points the moral that in times of prosperity we should be prepared for crisis, and that, we must say, is a point, we have often enough emphasized in these pages. Consider the various and costly organizations we have looking after our interests in times, shall we say, of peace. The Rubber Growers' Association, the Ceylon Association in London, the South Indian Association in London, the Planters' Associations of Malaya, Ceylon and South India, the Indian Tea Association, etc. The fact that they exist should prove unity of interests, but, unfortunately, though made up of united bodies of individuals they are themselves as far apart as the poles. There is no co-ordination in peace times and, therefore, no preparation for war. When the crisis comes, each proceeds in its own way to consider the position, and it is not until the horse is stolen that measures are concerted to lock the door. Thus, to revert to our Rubber Bank, we read :—

> "The proposal to form a Rubber Bank to assist growers is by no means novel; *unfortunately, however*, it has always been made at the time of a crisis—precisely the time at which it is needed, *but also the time at which its formation is least practicable from a financial point of view.*" The italics are ours.

Now, does that not also apply to the restrictions? Is it not a perfectly legitimate criticism of our many associations that, had some form of co-ordination existed when prices were more than favourable, warning could have been given? Certainly the time to restrict is in times of prosperity, and not now when the planter, to put it plainly, cannot afford to restrict. The Rubber Bank proposal is worthy of close consideration by us all. Its proposer considers it a practicable suggestion to fix a minimum selling price for No. 1 grade rubber. All right, if for rubber, why not for Tea, and why not go ahead calling a spade a spade and sell co-operatively. Is the Eastern Tea and Rubber Producers' Co-operative Society a dream? You cannot force anyone into the Rubber Growers' Association or any other body of the nature of our Associations. You cannot even enforce a ruling on any member thereof, because the power of the penalty is impotent. But, in the case of a purely financial institution like that of a co-operative bank, the power of ostracism is so great, and the need of its sheltering wing in times of crisis such, that to remain outside is to court the trials and tribulations which follow at the heels of the plougher of the lonely furrow.

We said recently that, if there is one question, other than labour on which it would be impossible to get planters to agree, that question is restriction of crop. In Malaya, it will be remembered, planters appeared to be in pretty deadly earnest on this question, Government was to be approached to make restriction (of Rubber Output) compulsory, and so on. The Rubber Growers' Association appears to have stepped in however, with the sufficiently startling announcement that "any proposal which might involve Government control, or involve Government interference, would meet with unqualified opposition here (London)."

This implies whole-hogging, for voluntary restriction, which obviously must rest on wholesale support. There is such enormous divergence of opinion on this point that it would seem doomed to failure, and a Malayan contemporary draws attention to this uncertainty, this lack of unanimity, that is one of the greatest obstacles to any clear-cut policy in the planting world. The Rubber Growers' Association have declared, it is stated, that the measure in 1913 was beneficial, but our contemporary is inclined to agree with the Hon. Mr. W. Duncan, that it was only beneficial to those who did not adopt it because they reaped the benefit of the sacrifices of those who did. The whole point of this Malayan view, however, is contained in a speech by Mr. G. L. Hickson at a meeting in Kuala Lumpur, who stated that any scheme proposed by the Rubber Growers' Association would cover only one-third of the industry, whilst it left two-thirds of the industry to its own devices. It is not for us to question the accuracy of Mr. Hickson's estimate, it is sufficient to realise that, if there is so much diversity of opinion at this late stage, there is little hope of the restrictions attaining the end desired, and we shall have to rely on an improvement in the various factors in England and America, that are upsetting not only this industry but nearly every industry in the world.

Meanwhile, the London correspondent of the "Times of Ceylon" cables:—"A critical period is ahead for Rubber. Stock has increased by thousand tons monthly. The conviction is entertained in some quarters that more drastic restrictions will be required for a certain amount of time. Very natural, apprehension exists in Mincing Lane. The immediate course of events is very difficult to judge Until the financial difficulties are cleared up there is little chance of a lasting recovery."

That, briefly, is the position with which Rubber planters are face to face.

WEST COAST PLANTERS' ASSOCIATION.

PROCEEDINGS OF A GENERAL MEETING, HELD AT MOOPLY VALLEY, ON OCTOBER 16TH, 1920.

PRESENT.—Mr. S. P. Eaton (Chairman), Messrs. A. H. Mead, F. Fellows-Wilson, A. C. Morrell, A. Barton-Wright, C. W. Clode, E. H. Halliley, C. Jackson, H. Walmesley, J. Bone, H. Grieve, C. W. Hadwin, A. Middleton, H. D. Middleton, G. Bayzand, (Honorary Secretary).

The notice calling the meeting was read.

The proceedings of the last meeting were taken as read, and confirmed.

427. ACCOUNTS.—A statement of accounts having been sent to all members the books were laid on the table. Proposed by Mr. Fellowes-Wilson and seconded by Mr. Morrell—"That the accounts be passed." Carried.

428. SUBSCRIPTIONS.—The Honorary Secretary said that he had had great difficulty in getting in the subscriptions due by estates, and that even now, when they are overdue by nearly seven months there were still three estates who had not sent them in. He also remarked that, out of those who had sent their subscriptions 50% of them had done so incorrectly, thus necessitating a great deal of extra correspondence. It made it practically impossible for the Secretary of the U. P. A. S. I. to carry on, for, unless estates were prompt in paying their subscriptions to the District Association of which they were members, that Association could not obviously send funds to the parent body, thus making the work of the Secretary, U. P. A. S. I. extremely difficult. Proposed from the Chair:—"That Estates should realise the seriousness of the situation, and be requested to pay their subscriptions on demand, otherwise that the penalty as laid down in the rules should be inflicted." Carried *nem con.*

429. DELEGATES' REPORT ON THE ANNUAL GENERAL MEETING, U. P. A. S. I. 1920.—Mr. Morrell, as one of the delegates, addressed the meeting as follows:—"Mr. Chairman and Gentleman:—As your elected Delegates we duly attended the Twenty-seventh Annual Meeting of the United Planters' Association of Southern India at Bangalore from the 23rd to the 26th of August last.

LADY WILLINGDON'S NURSING HOME.—As instructed we gave our support to the Executive Committee in its action in voting Rs. 50,000 of the South Indian Planters' War Fund to the Lady Willingdon's Nursing Home scheme, as did all associations except one. There is no need for us to make anything in the nature of a protracted or detailed report, as the Book of Proceedings is by now doubtless in your hands.

EXECUTIVE COMMITTEE.—Messrs A. H. Mead and E. Lord were elected as Active Members and Members-in-Waiting, respectively, on the Executive Committee, and no sounder men could have been elected.

RUBBER FACTORY IN SOUTH INDIA.—Under rubber matters on the agenda, one of your delegates proposed that Government be approached

as regards its willingness to help establish a Rubber Factory in South India, this for the manufacture of all kinds of rubber goods in every day use. The necessity for such a factory in South India, and the benefits to be obtained therefrom are too obvious to mention.

U. P. A. S. I. SUBSCRIPTION.—The matter of increasing the subscription to the U. P. A. S. I. by two annas per acre was recommended by the meeting, and later considered by the General Committee, but postponed to the next meeting of that body. Mr. Lescher voted for Mr. Mead at the General Committee Meetings held during the week.

LABOUR DEPARTMENT.—Matters concerning this department were discussed at length, details of which you are already in possession of.

MYCOLOGIST STATION.—A committee consisting of Messrs. J. S. Nicolls, Edward Lord, A. C. Morrell, and R. Lescher were appointed to meet Mr. J. R. Vincent with regard to funds still required for the completion of the Mycologist's Station at Mundakayam. Matters were fully gone into, and the committee recommended the sanction of Rs. 8 500 for furniture, completion of cart-road, and cutting connecting roads, and for a fence or wall round the station. This was passed by the General Meeting. Not much hope was held out as regards the probability of a Mycologist arriving in the very near future. The Director of Agriculture informed the meeting that all that was possible was being done to obtain the right man. There was a feeling that we should stand a better chance of getting a man if the appointment was offered direct through the U. P. A. S. I., and not through Government.

U. P. A. S. I. LABOUR RULES.—This Association was cited as the only Association which had said it would have nothing to do with the U. P. A. S. I. Labour Rules. Neither of your delegates were present at the meeting held in Calicut on the 25th October, 1919, when a resolution practically to this effect was passed. We do not agree with it, and can see nothing prejudicial to anyone's interests in any of the proposed nine rules. Rather the reverse, and co-operation of all associations is required to make them really effective. It is only the man who is not going to play the game who may dislike them. We strongly urge that this Association should pass a resolution, rescinding the former one and accepting the rules as they now stand. We may say only two Associations have not agreed up to date, and they are about to do so.

RUBBER EXHIBITION.—The proposal to have a rubber stall at the forthcoming Rubber Exhibition in London next year did not meet with support.

INCORPORATION.—All district associations are now incorporated, or just about to be.

SOUTH INDIA PLANTERS' BENEVOLENT FUND.—We cannot too strongly urge on members the ever increasing need there is to support the South India Planters' Benevolent Fund, and this was a subject that came up very largely for discussion at the Bangalore meeting.

STATISTICS.—We were also asked to urge for and bring to the notice of all managers the absolute necessity of sending in correct statistics promptly

when they are called for. The U. P. A. S. I. is very much referred to now-a-days, and is severely handicapped by not being in a position to give correct statistical information when asked to do so by Government and other important bodies and individuals. It is obvious an association of the size and the importance of the U. P. A. S. I. ought to be in a position to always give such information without fear of challenge as to its correctness.

With these few notes, we close our report, gentlemen, and thank you for the honour done us in electing us as your representatives at the meeting."

(Signed) R. LESCHER.

(Signed) A. C. MORRELL.

Mr. Mead proposed and Mr. H. D. Middleton seconded "that a hearty vote of thanks be given to the Delegates." Carried unanimously.

430. U. P. A. S. I. LABOUR RULES.—The Honorary Secretary read the rules to the meeting. Mr. H. D. Middleton said that, as he was the proposer of the resolution at the meeting held in October, 1919, for the non-acceptance of these rules, he would like to say that since then they had been considerably modified, especially rule 6, with regard to maistries already working on estates. This has now been altered, and, as the rules now stand he sees no reason for their non-acceptance.

Mr. Morrell said that he had not agreed to the rules at the U. P. A. S. I. Meeting as he had thought it better to hold the matter over for discussion at the next District Association meeting, he not having been present at the District Meeting in October.

Mr. H. D. Middleton proposed, and Mr. Hallilley seconded the following resolution:—"That, in view of the considerable modification of the Inter-District Labour Rules subsequent to the resolution passed at the W. C. P. A. meeting on the 25th October, 1919, this association now agrees to co-operate with other associations, and accepts the Inter-District Labour Rules as they now stand." Carried *nem con.*

431. RESTRICTION OF OUTPUT.—Mr. Eaton said that he had a copy of the proceeding of the R. G. A., held at Cochin on October 5th, and would read it if anyone wished to hear it, but as all members had already seen it this was unnecessary.

The meeting then went into Committee, and the whole question of restriction, preferential treatment for S. India, etc, was fully discussed.

Mr. Eaton pointed out that there was some inconsistency between two of the resolutions proposed and carried at the last meeting of the R. G. A., held in Cochin, and put the following resolution to the meeting:—

"That this Association, though in favour of some form of restriction, does not agree with the second resolution passed at the meeting of the R. G. A. South Indian Branch, held on October 5th, that estates should restrict November—December crops by 25% and January—February crops by 20% of the estimated output, but suggests that the Secretary cables to the parent body at home stating the case for S. Indian properties fully and

clearly, and asking for preferential treatment, and that we provisionally agree to a reduction of say, 10% only."

Mr. Mead then proposed the following amendment, seconded by Mr. Morrell.—"That this Association fully supports the action of the R. G. A. of South India at the meeting held at Cochin, on October 5th, 1920, and supports the resolution passed at that meeting," which was put to the vote, and passed on an acreage count being taken.

432. INTER-DISTRICT ASSOCIATION GAMES.—The Honorary Secretary suggested it would be a sound scheme if this association could arrange teams to play against other associations. Also, it would help in the now much discussed co-operation among planters, because an opportunity would then be afforded of meeting brother planters when otherwise it would be impossible. Mr. Mead proposed, and Mr. Bayzand seconded "that Mr. Jackson be elected Honorary Secretary of the West Coast Planters' Games Association." Carried unanimously.

433. AUXILIARY FORCE.—This was discussed in Committee, but no definite action was decided on owing to lack of information.

434. LICENSING OF CARTS IN MALABAR, COCHIN, AND TRAVANCORE.—The Honorary Secretary said that, although this matter had been brought up at several meetings during recent years, very little if anything had been done. The present system of carting logs of timber which protrude about 10 feet at the back of the carts was a source of great danger to the public. It very often occurs that the bullocks take fright and edge towards the ditch, with the inevitable result that the log swings right across the road thus blocking the thoroughfare. Also an order should be enforced with regard to the breadth of tires for certain loads, and thus much money would be saved on the upkeep of roads in general, and registration of carts would be necessary to see such orders were carried out. It was proposed from the Chair:—"That minute No. 401 of the meeting, held at Calicut on the 5th of July, 1919, that the West Coast Planters' Association recommends the registration of carts in Malabar, such registration to consist of (a) numbering, (b) standard breadth of tires, (c) length of logs carried, and (d) in this connection control of traffic be again brought to the notice of the Collector of Malabar, and also be forwarded to the authorities concerned in Travancore and Cochin." Carried unanimously.

435. PRINTING OF MINUTES.—Recorded that the printing of the minutes was an unnecessary expense, as all members receive, or should do so, the *Planters' Chronicle*, in which an account of the meetings held are fully published.

436. CORRESPONDENCE.—Letters on the following subject were read:—

(1) Road between Naranthapilly and the estates.

(2) Moovatapuzha to Cochin boundary on Ernakulam road.

(3) Thefts on goods on S. I. R.

(4) Mr. McRae's departure.

Proposed by Mr. Walmesley, and seconded by Mr. H. D. Middleton:—"That a vote of thanks to the Dewan of Cochin be passed for the very considerate way in which he has treated us in the matter of roads, etc."

It was decided that, as no reply had been received to the letter concerning the state of the roads between Moovatapuzha and the Cochin boundary, a further letter be addressed to the Chief Engineer, P. W. D., Trivandrum.

MR. W. H. C. LOHR.—Mr. Mead explained to the meeting, in connection with the memorial to the late Mr. W. H. C. Lohr that there was a balance outstanding due to the Arcadians' Club, and that his friends might like to subscribe towards this. A list was passed round the room, and the amount subscribed in full.

DATE AND PLACE OF NEXT MEETING.—This was fixed for the third Saturday in January at Calicut.

Mr. Eaton, on behalf of the visitors said that, before closing the Proceedings he would like to thank Mr. Mead very much for his kindness in inviting them to hold the meeting at Mooply, and all Members of the Arcadians' Club for the very hearty welcome they had extended to all.

With a vote of thanks to the Chair, the Meeting terminated.

(Signed) S. P. EATON,
Chairman.

(Signed) G. BAYZAND,
Honorary Secretary.

SOUTH TRAVANCORE PLANTERS' ASSOCIATION.

Minutes of the Second Quarterly General Meeting, held at Quilon Club, on Saturday, 30th October, 1920, at 10 a. m.

PRESENT.—Messrs. E. Lord, R. N. W. Jodrell, A. G. Patterson, H. Clarke, W. G. Thom, J. R. N. Pryde, (Hon: Secretary.)

VISITORS.—Messrs C. Hall, A. D. Lodge, A. W. Leslie, L. H. Jacob, D. M-Gall, C. K. Olney, and Parker.

In the absence of Mr. Cook, Mr. Lord was voted to the chair.

Notice calling the meeting having been read, Minutes of the last quarterly general meeting were taken as read, and confirmed.

CORRESPONDENCE.—A letter from the Chief Secretary to Government was read, stating that the Arrack shops at Ariankavoo and Tenmalai could not be abolished, but that Government had sanctioned the abolition of the shop at Kalthuritty from the beginning of 1096, (M. E.), and this was considered satisfactory.

Letter regarding Labour, from the Labour Superintendent, Palamcottah had been circulated to Members, and the remainder of the correspondence was of minor importance.

REPORT OF DELEGATES TO BANGALORE.—At the Chairman's request, the Hony. Secretary read the report, which was as follows:—

"Gentlemen,— Your delegates attended the U. P. A. S. I. Annual General Meeting at Bangalore in August. As you have all received a Book of Proceedings, we will only mention the subjects which were brought forward at our meeting of 14th August."

LADY AMPTHILL N. I.—There was no resolution on this matter, and we do not remember the question of subscriptions being discussed. As you know, the constitution of this Institute is being altered or enlarged in connection with the South Indian Nursing Homes, and perhaps our Honorary Secretary can give you the latest information about it.

S. I. P. WAR FUND.—After some discussion as to the final disposal of this fund, it was resolved :—

"That, after the payment of all present liabilities, the balance standing at the credit of the S. I. P. War Fund be transferred to the S. I. P. Benevolent Fund, and that all liabilities in connection with the former be in future met by the latter fund. Further, that the amount of the said balance be capitalised."

INTER-DISTRICT LABOUR RULES.—As instructed, your delegates accepted these rules as they stand, but said your opinion was that Rule III was not quite right. This rule will probably be made more equitable later on if it is found not to work satisfactorily. These rules came into force on 1st October. We would point out that these rules are Inter-District Rules. Each Association can have its local rules for its own members.

ELECTION OF PLANTING MEMBER.—Only members whose names are on the final roll will have a vote at the election. As the Honorable Mr. Richardson is the only gentleman nominated, and he has kindly consented to represent our interests, an election will probably be unnecessary.

ALTERATION OF FINANCIAL YEAR.—There is to be no alteration in this, and on page 99 of the Book of Proceedings, you will find the difficulty got over by Mr. Macpherson's resolutions:—"That the Budget for the ensuing year shall be submitted to the General Committee before 31st March each year."

Mr. Lord then offered to answer any questions

LADY AMPTHILL NURSES' INSTITUTE.— The Hon: Secretary reported that he had been in correspondence with the Secretary, L. A. N. I. regarding subscription, and after some d scussion it was resolved :—"That the Lady Ampthill Nurses Institute be asked to accept a subscription of Rs. 25 per Estate—such subscription to cover Managers, Superintendents, Assistants and their dependents," and the Hon: Secretary was instructed to act accordingly.

SRI MULAM POPULAR ASSEMBLY.— Mr. Pryde was elected delegate, and was instructed to bring up the subject of roads. The second subject was left to the discretion of the Hon. Secretary and he was instructed to write and ask members for full information regarding roads, and if there should be any other subject to be brought up to inform him accordingly before the necessary date.

TIMBER RIGHTS.—Government orders had just been passed, and as the position was not clear, it was decided to leave the matter for a definite ruling and to proceed afterwards, if necessary.

After votes of thanks to the Club for use of the room, and to the Chair, the meeting closed.

(Signed) J. R. N. PRYDE,
Honorary Secretary.

SOUTH MYSORE PLANTERS' ASSOCIATION.

PROCEEDINGS OF AN EXTRAORDINARY GENERAL MEETING HELD AT THE MUNZERABAD CLUB, SAKLASPUR, ON NOVEMBER 4TH, 1920.

PRESENT.—Messrs. W. L. Crawford D.S.O., (President), H. F. Anderson, T. Anderson, C. C. Couchman, W. F. Scholfield, E. H. Young and A. L. Hill (Honorary Secretary.)

I. The Minutes of the last Meeting were read and confirmed.

II. Election of a Representative on the Governing Body of the Sanderson Memorial Ward Chickmaglur:—Proposed by Mr. W. L. Crawford, and seconded by Mr. T. Anderson Mr. A. Durham was unanimously elected with effect from 15-10-20.

III. Labour Rates of Pay:—

After some discussion, the following resolution, proposed by Mr. W. F. Scholfield, and seconded by Mr. E. H. Young, was carried:—"That the rates of pay for imported labour be raised by 20% and 33⅓% for men and women, respectively, with effect from 1-12-20."

The Meeting then terminated.

(Signed) W. L. CRAWFORD,
President.
(Signed) A. L. HILL,
Hon. Secretary,

INDIAN TEA ASSOCIATION.

Abstract of Proceedings of a Meeting of the General Committee, held at Calcutta, on 26th October, 1920.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON).—Letters, dated 23rd and 30th September, 1920, from the Indian Tea Association (London) which had been circulated, were now to be recorded. The principal subject dealt with was:—

(*a*) *Proposed restriction of crop.*—It was noted from these letters that the London Committee's telegram of 27th September, 1920, as reproduced in circular No. 60—1920, was the result of further consideration given to the question of reducing output so far as the 1920 crop was concerned, and that the alternative recommendation to cease plucking on the 15th November, 1920, had been made to secure unanimity in regard to the crop for the current season. It was also noted that the Ceylon Association in London were recommending immediate curtailment of production, that the South Indian Association in London

had received promises of support to the restriction scheme from the large majority of concerns in the membership of that Association, and that as regards Java concerns, although the Tea Committee of the British Chamber of Commerce for the Netherlands could not see their way to bind themselves to a definite proposal on the lines suggested by India and Ceylon, they had nevertheless passed a resolution advocating measures to give practical support to the action of the Indian and Ceylon Associations.

PROPOSED RESTRICTION OF CROP.—As arranged at their last meeting, the Committee obtained most of the outstanding replies to circular Nos. 59 and 60 of 1920, and they now considered the records of replies received, together with a note of the replies still outstanding. These records showed that unanimity had been practically secured for 1920, some new gardens alone dissenting, and that the restriction proposed for 1921 was generally approved subject to equitable allowances being made for (*a*) new gardens, (*b*) old gardens with large extensions, and (*c*) estates producing small yields per acre. The recommendations of the London Committee in regard to these three categories had been sought through the mail advices, but it was now considered desirable to wire for these recommendations, and the following cable was accordingly approved for immediate despatch to London :—

Restriction. Replies received with exception of 29 gardens mostly Indian owned. Unanimity practically secured for 1920 excepting new gardens. Only 8 gardens refused restrict. With regard to 1921 restriction generally agreed to subject to equitable allowances being made for Darjeeling gardens and young tea. Suggest adoption allowances similar to those recommended by us in 1917. Most important we are advised by cable immediately whether sufficient support on your side to put scheme into operation both in respect to 1920 and 1921.

PROPOSED REGULATION OF SHIPMENTS OF TEA FROM INDIA.—As arranged at last meeting, endeavours were made to expedite replies to circular No. 62—1920 which impressed upon members the necessity for restricting shipments, and invited them to report whether or not they were prepared to reduce shipments to the 5% margin recommended for adoption between 1st October and 31st December, 1920. The file of replies now submitted showed that only 3 members refused to restrict on the lines suggested. A few replies from agency houses were still required, however, and the Secretary was instructed to collect these at the earliest opportunity, to enable the Committee to explain the position to the London Association.

RESTRICTIONS ON THE EXPORT OF TEA FROM THE UNITED KINGDOM.—It was recorded in the proceedings of 12th October, 1920, that a telegram had been received from the Commerce Department of the Government of India intimating the receipt of a cable from His Majesty's Secretary of State for India, advising all that restrictions on the export of tea from the United Kingdom had been removed. The latest mail advices indicated that the London Association were aware of this position, and, as the contents of the Commerce Department's cable had been telegraphed to the Ceylon Chamber of Commerce for their information, the correspondence was now to be recorded.

PROPOSED INCREASE OF THE TEA CESS.— Reference was last made in the proceedings of 22nd June, 1920 to proposals made by the Indian Tea Cess Committee for increasing the rate of the cess levied under section 3 of the Indian Tea Cess Act (IX of 1903) from ¼ pie per lb. to a maximum of one pie per lb. In their circular No. 37—1920 which put the full reasons

for the suggested increase before members, the Committee explained that they agreed to the proposal, but desired to have the approval of members before replying to that effect to the Indian Tea Cess Committee. This approval was duly obtained, and the Indian Tea Cess Committee had been informed accordingly.

Copy of resolution No. A35, dated 29th September, 1920 by the Government of India, Board of Industries and Munitions, stating that the proposal had been unanimously approved by the tea producing industry, and intimating that criticisms or objections were required to be lodged with the Government of India before 1st November, 1920, had been seen in circulation, and was now to be recorded.

PROPOSED ENHANCEMENT OF THE INDIAN IMPORT DUTY ON TEA.—In a letter dated 10th October, 1920, the United Planters' Association of Southern India quoted the text of a resolution by that Association agreeing to the proposal to increase the tea cess to a maximum of one pie per lb. with the following stipulation "that the Indian Tea Association be requested to press Government to impose a duty of 4 annas per lb. on foreign teas imported into India." The letter pointed out that Ceylon imposed an import duty of 4 annas per lb., and that the Planters' Association contended that, if tea producers were to tax themselves in order to increase their markets, foreign countries producing tea and doing nothing to increase consumption should not be allowed to benefit from the expenditure in India.

This question of the consumption of Ceylon and foreign teas in India, had been examined some years ago by the Indian Tea Association in consultation with the United Planters' Association of Southern India. The idea at that time was that an import duty of, say, 4 annas per lb. should be levied on all teas imported into India. But the proposal, although under discussion for a long time, was eventually abandoned. Subsequently the existing import duty was raised from 5% to 7½%, and the tariff valuations upon which it is calculated, were fixed at 12 annas per lb. for black tea and 14 annas per lb. for green tea. There was, therefore, at the present time a fairly substantial duty levied on all imports of tea into India. What the South India Association now had in mind was, presumably, that this duty should be changed into a specific duty of 4 annas per lb. irrespective of the value of the tea. As regards this suggestion, the Committee were averse to taking such action, as they preferred not to risk any break in the present harmonious co-operation of the Ceylon tea industry in connection with the efforts now being made to reduce production. It was true that during 1918, close upon 11½ million pounds of tea were imported into India. But this had been done under war conditions when the transport of ordinary merchandise from Eastern to Western India had practically ceased, and the railways were so congested that it was easier and cheaper to bring tea from Ceylon and elsewhere to Western India than to take it thence from Calcutta. During the year 1919-20, when the war traffic had practically ceased, these imports of tea declined materially, and it seemed reasonable to infer that in normal circumstances the quantity of imported tea was not likely to increase as was apparently apprehended. In the circumstances the Committee felt that a convincing case could not be made out in support of the proposal by the South India Planters' Association, and they decided to reply accordingly.

EXPORT DUTY ON TEA.—The Committee considered a letter, dated 15th October, 1920, from the United Planters' Association of Southern India

intimating that the following resolution, as passed at the annual meeting of that Association, had been forwarded to the Government of Madras :—

> That this Association approach the Government of India through the Government of Madras with a view to the removal of the export duty on tea as this impost was accepted as a war measure. This Association would further point out that, considering the present depressed state of the tea market and the unlikelihood of any recovery in the immediate future that this impost is too heavy a burden on the industry. Further that, we ask the Indian Tea Association to support the resolution.

With reference to the suggestion that similar action should be taken by the Indian Tea Association, the Committee fully agreed that the export duty of Rs. 1-8-0 per 100 lbs., which was imposed under more prosperous conditions in 1916, was unjustifiable now-a-days when the industry was struggling not so much to achieve a profit, as to avoid a serious loss, and they decided to address a strong representation to the Government of India urging the earliest possible removal of the duty under discussion.

MADRAS AGENCY TRACTS.—A memo, dated 14th October, 1920, from the Chairman, Assam Labour Board, forwarding copy of a letter of 5th October, 1920 to him, from the Government of Madras, stating that the Government proposed to review the whole question of recruitment of labour in agency tracts, on 1st September, 1921 when the experimental recruiting period of 18 months was due to expire, was noted, and ordered to be acknowledged and recorded.

WHAT EVERY PLANTER OUGHT TO KNOW.

BY FRED KNOCKER, F. Z. S.

(Author of *Hevea Braziliensis* in British Malaya.)

A SIMPLE LESSON ON THE PHYSIOLOGY OF HEVEA BRAZILIENSIS.

I am not going to preach a sermon, but I should like to take for a text the 2nd and 3rd paragraphs of the 51st page of the 1st number of *The Planter* : " Bark Renewal"—"The Origin of Latex." Assuming you have read and marked the substance of this text, we will now proceed to learn it subsequently leaving it to the reader's discretion to inwardly digest it. It will be a long, circuitous route, and for the planter bereft entirely of any knowledge of plant physiology it may become tedious. Howbeit, the author promises faithfully, on the one part, not to inflict upon his readers anything beyond the simplest of scientific nomenclature, nor puzzle them with abstruse phraseology, so that the veriest tyro may safely venture on the journey. If, on the other part, the reader follows the author closely, even the wisest of you may lay down the paper eventually with a feeling of having been mildly interested, whilst the untutored may become imbued with a sense of self-satisfaction at having mastered a very simple elementary lesson in physiological botany.

The life of the rubber planter is thwart with averages ; so I may be forgiven if I start right off by saying that the average rubber planter's know-

ledge of the anatomy of the tree he has to deal with is confined to wood bark, and cambium. Over and beyond these he has some vague idea of a current of water passing up and down the tree and called the sap. When the bark is cut by the tapping cooly the average planter is ocularly convinced that a white, milky fluid is contained somewhere in the bark, and that fluid he has been taught to call latex. I have occasionally met planters who have actually wondered how this latex gets there, and what it is for; but the planter who expresses any innate inquisitiveness as to how the bark, once destroyed, gets renewed belongs to a class above the average and might be honestly termed a *rara avis*! If you ask our friend the average planter how it comes about he dismisses the subject airily with :—"Oh! the cambium does all that sort of thing"—just as we might reply to the question, where the water in the bath jar comes from every day—"Oh! the *tukang ayer* sees to that!"

However, here we have at least a workable basis on which to start our lesson : the wood, the bark, the cambium, the sap, and the latex. To get a fair grip of the subject our preconceived idea of the wood forming one substance in the centre of the tree has to be amplified; whilst what we know of the bark has to be completely revolutionized. These two points and the mystery of the cambium cleared up, then the true meaning of the simple words sap and latex will follow automatically.

The real centre of any tree is not the wood at all: it is the *pith* or *medulla*. To the rubber planter, however, it is of no consequence. Indeed, it is of very little consequence to the tree itself— so little consequence, in fact, that in some trees it is entirely missing. In other words, it takes no part at all in the life system of the tree. Now the wood itself does; and in order to do so it is divided by nature into two parts. There is the old wood, naturally the inner portion and increasing in hardness towards the centre ring, the degree of hardness varying in different species of trees, as, indeed, is well known. Then there is the young, outside wood, soft and moist. This is called the *sap-wood* or *alburnum*, as distinct from the *heart-wood* or *duramen* of the old wood. The two together are known as the *xylem*. Of these names the reader can please himself which he uses in future, but for the purposes of this article I shall prefer the more simple, homely-sounding ones. So, the heart-wood's function in the life of the tree is to merely support the stem; but that of the sap-wood is far more important, containing as it does vessels acting as air-carriers and fibres through which the sap passes up the tree—hence the title sap-wood.

That is, roughly, the physiological significance of the word, wood or xylem. But before carrying on with our other household words it would be as well to break off here and go right into this business of the sap, a full understanding of which is positively necessary for the exposition of our text.

It has been pointed out that the sap passed upwards through the fibres of the sap-wood—a simple statement on a par with the one anent the cambium and bark renewal! Nevertheless, there must be some force, or forces, at work to induce any liquid to flow upwards in a vertical direction. This opens up a wide field of controversy and well known botanical facts. The former need not concern the practical planter, excepting, if so he chooses, as a hobby. Of the latter the one outstanding feature is the natural phenomenon known as *transpiration*, and that does concern every practical rubber planter very considerably. Speaking broadly, a know-

ledge of other causes of sap movement are immaterial to the rubber planter from a practical, or utility, standpoint. It engenders a far more intimate knowledge of cellular formation and plant histology than is compatible to a magazine article. Yet a generalised understanding of this process of transpiration cannot be otherwise than helpful to the young rubber planter; and, were it not for the lamentable fact that a generation of rubber planters has passed away in abject ignorance of the knowledge, I should say it was indispensable.

To gain a clear impression of plant transpiration and all its import we must transfer our attention, for the time being, from the stem of the tree to its leaves. I suppose we are all alive to the tremendous importance of a profuse and richly hued foliage to Hevea braziliensis. Upon it depends all that goes to the making of the rubber planter's fortune. In spite of which, how many of us can answer that little question, "Why?" It is a complicated subject, but withal capable of being treated broadly so that we may yet be able to give an intelligent reply to the interrogation in the short space of this lesson.

In the first instance water is taken into the tree by its roots, the reason for this being the very patent fact that before any food can be assimilated by the plant it must be in a state of solution. So is nitrogen, phosphorus, sulphur, potassium, and such-like introduced into the stem from the soil, *via* the roots. There is, however, one very essential element of plant food that cannot be passed in through the roots—to wit, carbon. Speaking at random, I believe, about half a cubic foot of carbonic acid gas goes to 1,000 cubic feet of air. That is not much; but it is the rubber tree's opportunity. By the aid of the green corpuscles of the leaves (known as chlorophyll) acted upon by the sunlight the carbon dioxide ($C O_2$) i. e. carbonic acid - on entering the leaf is decomposed, the carbon absorbed by the plant and the oxygen restored to the atmosphere. This absorbed carbon is combined with the water taken in by the roots, but a goodly portion of the water escapes by the leaves, naturally far more at night. This overflow, as it were, is not wasted, as we are all well aware. It falls to the ground to be again used by the roots in absorbing the chemicals from the soil. It will be at once perceived that evaporation relies largely upon existing conditions, the principal factor being the amount of light — i. e. the greater the light the greater the transpiration. From this fact follows the highly important one that by, what may be considered a process of suction, the leaves themselves supplement the root pressure from below in inducing the sap to flow upwards. Again it follows, that the more active the transpiration the more rapid the sap circulation. Think what this means in the light of our present knowledge: the heavier your rubber tree's foliage the greater the evaporation—the darker the shade of the green colouring of the leaves the greater the absorption of carbon. Yet still we cannot grasp the intrinsic value of these facts without a little more learning So let us hark back to the stem and analyse our next household word — bark.

What is commonly regarded as bark is the dead outside tissues of the cork (epidermis); but accepting the word in a wider sense then it can be made to include all those layers external to the cambium, more appropriately named the cortex. I do not believe there is a planter in the whole of Malaya to whom it is necessary to explain that the cambium in the active formative part of a tree immediately underlying the inner bark and separating it from the wood. Likewise, that the cambium gives rise intern-

ally to the wood and externally to the inner bark, otherwise known as the *phloem* or *liber*, and which, in the Para rubber tree, is celebrated for its laticiferous vessels. Outside the liber is the middle bark known scientifically as the *phelloderm*, also latex-bearing. Then you get a layer of cork, and with this cork goes another formative tissue often called the cork *cambium* but more correctly named the *phellogen*. Differing from the true cambium, however, it has the power of re-producing laterally. In that connection it often aids opportunely the healing of not too serious tapping wounds.

There is just one other thing to note in the physiology of the cortex, and that is the cross layers of tissue which unite the middle bark with the pith by piercing the intervening layers, and which in consequence are known as the *medullary rays*—the "silver grain" of the cabinet maker. From a rubber planter's point of view the importance of these rays are liable to be underestimated, but to become familarised with their true functional value we must now pick up the broken thread of the green leaf's story.

We have seen how transpiration is effected by means of the sap rising from the roots, and we have seen how carbon is taken in from the atmosphere through the medium of carbon dioxide. We left the carbon, so to speak, in the leaf combining with the water taken in by the roots. The chemical formula for water is universally known as H2. O.; and bearing this in mind the reader at once perceives that the net result of this combination of carbon and water must be the formation of carbo-hydrates—*i.e.*, sugars and starch cellulose. These elements go to form an elaborated sap which is conducted down the outside of the stem and circulated by bast fibres composing the liber or inner bark. From the liber this elaborated sap is distributed in a lateral direction throughout the inner layers of the stem by means of the medullary rays (*vide ut supra.*)

Now, with no more than an iota of imagination, it can be readily understood how the prolificness of the laticiferous vessels and an expeditious and satisfactory bark renewal is dependable on the ever active co-operation of all these separate elements and processes. And it would appear, also, that if cultivation is to be done at all to *Hevea braziliensis* it should be concentrated on the development of the root and leaf systems. Granted both are largely dependent on existing natural conditions and environment there is still much that the planter can do to help on nature with the good work. On the other hand it is self-evident that there has been a good deal done in the past that would never have been done at all if illumined by the light of the knowledge we have just acquired; and there still remains much being done to-day contrary to the laws instituted by nature for the creation of all that is best for the Para rubber tree, thereby handicapping her own powerful system for the production of healthy and vigorous trees. Take a walk round the *tote* and think it over!

Putting aside the fact that the latex—yielding proclivilses of individual trees must vary in ratio to the degree of perfection attained by their root and leaf systems, it is equally apparent that the latex productivity of every tree is controlled by the varying activity of its transpiration—varying, that is, as we have seen, according to the supply of light and moisture. Hence, you get the heaviest yields any time during wet weather; but you get the heaviest yields from a comb nation of wet weather and the period of fully matured and most luxuriant foliation. This period, speaking generally for Malaya,

is in the month of January and thereabouts. When the rainy season drawing to a close allows of an increasing number of bright days interspersed with showers, and the trees have completely matured their annual equipment of new foliage.

So we are brought right back to the text of our article: "Bark Renewal" and "the Origin of Latex"; and the reader may like to re-peruse Dr. Bobilioff's remarks in the light of his newly acquired knowledge. Peradventure, like the author, whilst not actually disagreeing with the learned Doctor and allowing for the obvious misnomer of the title "Origin of Latex," he might feel inclined to pensively remarks:—"Why all this experimental fuss to produce results which could be foreseen and were physically incapable of being otherwise?"

THE LESSON IN ABSTRACT.

Medulla—(Lat=the interior part) or *Pith* (Anglo-Saxon *pitha*= marrow): The dry and colourless axis, or centre, of the stem. It is surrounded by a layer of air vessels called the Medullary *sheath*.

Duraman.—(Lat. durus—hard) or Heart-wood:—the outer, hard layers of wood, generally, more or less, darkly coloured, and constituting a "back bone" to the tree.

Alburnum.—(Lat. albus=white, or Sap-wood:—the outer layers of wood, pale in colour and composed of air—carrying vessels and sap-distributing fibres which pass the current of sap, taken in by the roots, upwards to the leaves.

Xylem.—(Gr. xylon=wood) or the Wood:—the whole of the central part of the tree exterior to the medullary sheath: i. e. the duramen and the alburnum.

Cambium.—(Lat. cambio=to change):—the formative layer between the wood and the cortex out of which new wood and new inner-bark are formed.

Phloem.—(Gr. ph'oios=the inner bark of trees), Liber (Lat.=inner bark) or Inner Bark:—the inner layer of the cortex composed of vessels, soft bast, and bast fibres, the latter of which act as sap circulators of the elaborated sap brought down from the leaves.

Phelloderm.—(Gr. phellos—cork: derma—skin):—the middle layer of the cortex which a'so contains laticiferous vessels.

Phellogen.—(Gr. phellos—cork: gennao—to produce), or Cork Cambium:—the formative tissue from which the layer of cork is continually increased in thickness, and which by producing tissue laterally effectively covers over the renewed tissues of inner-bark formed by the cambium after tapping.

Cork:—The outer layer of the cortex, the outside tissues of which exposed to the atmosphere become dead and eventually peel off under the expanding influence of the growth of the stem.

Epidermis.—Gr. (epi=upon: dermis=the skin):—the dead outside tissues of the cork (q.v.) commonly called "bark."

Crotex.—(Lat.= bark :—the whole of the outside layers of the stem exterior to the cambium.

Medullary rays :—transverse layers of tissue uniting the pith with the middle bark (phelloderm), their function being to distribute the elaborated sap passing down the liber (q.v.) through the inner parts of the stem.

Transpiration :—The process by which the superfluous water ascending the tree from the roots is exhaled through the leaf in the form of a vapour, thus forcing the roots to maintain a perpetual and efficient supply of sap circulating through the fibres of the sap-wood (*q. v.*)

Chlorophyll.—(Gr. chloros = green : phyllon = a leaf) :—the green colouring matter of the leaves which, under the influence of sunlight, decomposes the carbon-dioxide taken in from the air, fixing the carbon and setting free the oxygen.

Laticiferous vessels.—(Lat. latex = a liquid : fero = I bear,) :—elongated tubes containing a fluid which in Hevea braziliensis is known as rubber latex and occurs in the inner and middle layers of the cortex.

NOTES AND NEWS.

The Labour Rules.

We may congratulate the West Coast Planters' Association on coming into line with the rest of the affiliated Associations in accepting the Inter-District Labour Rules. It would be interesting to know what the alterations are to which Mr. Middleton referred at the West Coast Meeting. So far as we are aware, the rules as they now stand were passed at the Annual Meeting at Bangalore in August, 1919. They were turned down by the West Coast Planters' Association at Calicut in October of the same year.

Hookworm.

Dr. Milton's article, of which the final instalment appeared last week, would seem to indicate that the Anamalais and the Wynaad alone employ first class medical men. He omits the Travancore Medical Association which is a combine of Peermade and Mundakayam interests employing two doctors (one European). The Kanan Devans have also their own medical man, and it is only quite recently, of course, that the lamented death of Mr. Hiley deprived the Coorg Medical Association of his services.

We notice that Dr. Milton continues to recommend the preliminary purge in Hookworm treatment. In Ceylon, campaign methods have been considerably modified since the work was inaugurated and the treatment is not so drastic as formerly; the preliminary purge has been omitted altogether, as has also the preliminary fasting; the vermifuge dose is smaller, but equally efficient, the duration of work on each estate is shorter, and the disturbance of the estate routine has been reduced to a minimum.

The Markets.

The "Produce Markets Review" in mail week states, that prices of coffee have been maintained, and fine parcels are keenly competed for. It appears that 1,250 bags of "In Prize" Santos were offered, but withdrawn as there was no competition. Meanwhile, our weekly cable shows a steadily sagging market which can only improve with an increased continental demand.

Ceylon Tea.

Figures of Ceylon Tea exported by Rail *via.* Talaimannar to the following stations in South India :—

Mangalore.	...	650 lbs.
Badagara.	...	1,690 lbs.
Madras.	...	80 lbs.
Tinnevelly.	...	80 lbs.
Total	...	2,500 lbs.

These figures are taken from the "Ceylon Chamber of Commerce" Weekly Price Current, dated 25th October, 1920.

The U. P. A. S. I. General Committee.

The Secretary, U. P. A. S. I. has issued notices calling a meeting of the General Committee, on Monday, December 6th next. Honorary Secretaries of District Associations are requested to inform Mr. Waddington if their Associations will be represented, so that accommodation may be arranged in advance for the delegates.

Labour in Assam.

The Tea Districts Labour Association in an abstract showing the progress of recruitment from 1st September, 1919 to 31st August, 1920, published the following figures:—

	Season 1919—1920. Coolies Recruited.			Season 1918—1919. Coolies Recruited.		
	Sirdars Consigned.	Souls.	Adults.	Sirdars Consigned.	Souls.	Adults.
Assam ...	28,721	76,833	53,034½	45,112	2,62,099	1,72,096⅛
Dooars ...	...	4,737	4,065½	...	34,410	29,522½

F. M. S. Rubber Exports.

An official cablegram from Kuala Lumpur gives the exports of rubber from the Federated Malay States during September as 7,604 tons, compared with 9,140 tons in August, and 9,841 tons in the corresponding month last year. The total exports for nine months of the current year amount to 80,262 tons, against 79,824 tons in 1919 and 58,142 tons in 1918.

Appended are the comparative statistics:—

	1918. Tons.	1919. Tons.	1920. Tons.
January ...	7,588	7,163	11,119
February ...	6,820	10,809	9,781
March ...	7,709	10,679	9,524
April ...	7,428	7,664	8,375
May ...	5,851	7,308	7,627
June ...	5,161	7,094	9,049
July ...	5,706	8,640	8,043
August ...	5,291	10,626	9,140
September ...	6,588	9,841	7,604
Total	58,142	79,824	80,262

Harrisons and Crosfield.

The annual report of Messrs. Harrisons and Crosfield states that the capital was recognised in June, 1918. The holders of the shilling management shares received an equal number of £1 deferred shares (a new class) as a bonus from the reserve and certain rights which they had previously possessed were transferred to the deferred class. The preference dividend was at the same time raised from 5½ to 6 per cent., and the preferred ordinary shares became entitled to a full cumulative 10 per cent., instead of 5 cumulative and 5 conditional. Preferred ordinary shares to the amount of £700,000 were afterwards offered—£150,000 each time in January and June, 1919, and £400,000 at the end of last year. The issued capital is now a little under £1.838,000, of which £630,000 is in preference, £1.000,000 in 10 per cent. preferred ordinary, £182.966 in deferred, and £25.000 in management shares of 1s. each. It is now proposed to pay nearly 30 per cent. on the deferred for the year, and about 180 per cent. as against 150 per cent. last year, on the small management share capital. Details of the profit and appropriations for three years are given below.—

	1919-20.	1918-19.	1917-18.
	£.	£.	£.
Net profit	249,204	200,572	212,190
Brought forward ...	36,147	37.530	37.340
Available	285.351	238,102	249.530
Preference dividend ...	37.230	36.165	33,000
Preferred ord. dividend ...	80,000	37,500	30,000
Deferred dividend ...	59,981	50,087	15,000
Management do. ...	45,344	37,179	60,000
Staff funds	11,000	12,000	6,500
General reserve ...	13,922	14.024	27,500
Income-tax reserve ...	...	15,000	40,000
Carried forward ...	37,874	36,147	37,530

The net profit in 1916-17 was £187,181, in 1915-16 £154,251, in 1914-15 £152,303, and in 1913-14 £134,269.

The Rubber Market.

Macson writes in the India Rubber Journal:—

Prices have kept fairly steady, and this is a good augury, as the October to December position is the pet speculative counter, and must be a long way the heaviest of the year. The London landed contracts in this position give cause for no uneasiness. Not so, however, with the c.i.f. New York October to December shipments.

The New York market has not yet set its house in order, and the fifteen firms there who have bought and sold speculatively to the extent of 100,000 tons may prove to be in a hopeless position. No definite news is yet to hand of their exact position, and possibly this cannot be made till the October-December c.i.f. position has tested itself out.

This wholesale collapse of the New York market makes this last quarter position very dangerous. It is bound to press heavily upon the position in London. Documents pertaining to c.i.f. contracts are presented in London for payment, and have to be met in quick time—if the New York buyer is in difficulties then London must bear the brunt.

Tea.

Although the finer grades met good competition and tippy sorts sold at high prices there was less demand for common to medium kinds, and a considerable quantity was withdrawn. At this juncture it is interesting to study the official statistics of the Tea Trade of the United Kingdom, which we give hereunder :—

	One Month ended September 30.		
	1918	1919	1920
	lbs.	lbs.	lbs.
Imports—			
India	1,261,816	1,991,074	1,377,681
Ceylon	359,155	568,474	816,124
China	119,089	185,650	38,628
Java, Sumatra and other Dutch possessions	92,787	332,248	149,304
Other Countries	13,386	32,291	2,088
Total Imports...	1,846,233	3,109,737	2,383,825
Home Consumption ...	24,747,042	36,617,779	36,359,967
Export	4,976,681	3,086,970	3,437,028
Total Deliveries...	29,723,723	39,704,749	39,796,995
Stock on September 30 ...	99 717,000	142,959,000	220,792,000

	Nine Months ended September 30.		
	1913	1919	1920
	lbs.	lbs.	lbs.
Imports—			
India	3,884,336	11,913,138	11,995,570
Ceylon	3,343,914	6,583,568	6,728,617
China	421,705	1,187,503	908,320
Java, Sumatra and other Dutch possessions	874,379	1,573,553	1,883,025
Other Countries	47,737	390,656	116,606
Total Imports...	8,572,071	21,648,418	21,632,138
Home Consumption ...	225,251,371	292,569,378	284,327,931
Export	41,582,675	21,809,732	30,939,007
Total Deliveries...	266,834,046	314,379,110	315,266,938
Stock on September 30. ...	...	...	...

LETTERS TO THE EDITOR.

[The Planters' Chronicle is not responsible for the opinions of its Correspondents.]

Labour.

DEAR SIR,—I read with interest "Mackay's" letter in your issue of the 23rd October. I think his arguments are quite sound. There is no doubt that a cooly does not take a Bonus into much consideration. It is beyond him. I would back the Kangany who was able to say, when trying to recruit a cooly, I will get you 7 annas pay a day; against the Kangany who said "I will get you 6 annas, plus Bonus"; even though the total amounted to more than 7 annas per day.

Why not pay the cooly 8 or even 9 annas, and do away with all these auxiliaries—cheap rice, Bonus, etc? Even if rice gets cheap we will have to put up his pay. If we can say to the cooly your pay is so much, you have got to support yourself out of it, he knows where he is. But to try to make him understand all the benefit he receives from cheap rice, etc. Well, "The Lord preserve us!"

Yours faithfully,
"BOI CRICKEY."

Restrictions of Tea Output.

Dear Sir,—I quite agree with what Sir Fairless Barber writes in his letter in your paper of the 23rd October with regard to the "Quantity"—at—any—price School." My own Estate and others with which I am connected, have for the last 20 years or more stuck to one system of plucking, and even under the present conditions are still able to pay their way. If necessary, we are quite prepared to pluck finer. High Elevation Estates have never competed with the Low Elevation Estates with big yields, which have always benefitted to far greater extent during good times than Estates at a High Elevation with a comparatively small outturn.

As it is, owing to "Quantity at any price" methods when times are good that markets have been over-stocked—I fail to see why that "School" should not stand the racket now times are bad. One cannot hope to score all ways.

The question of Java Teas, etc. referred to in your Editorial, is also much to the point.

If the Tea Associations at Home would fix up some arrangements by which teas for sale in the various markets could be inspected by a competent Board of Experts, and those below a certain standard of quality "Scrapped," it would be much more to the point than talking "Restrictions," unless it is intended to enforce them *universally* not only in India and Ceylon, but all other tea-producing countries by penalties that can be practicably carried into effect.

Yours faithfully, L. L. PORTER.

SHORT ADVERTISEMENT.

FOR SALE.

SNUFF.

Orders booked for regular supply of Superior Madras and Medicated scented snuff at Rs. 0-15-0 and Rs. 2/10/0 respectively for ¼ viss each. Concession given on orders of more than 1 maund a month.

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Post Box No. 155; Madras.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE

(BY CABLE.)

LONDON, 12TH NOVEMBER 1920.

116s./- per cwt. Market quiet.

INTER-DISTRICT SPORTS.

At the forthcoming meeting of the General Committee, U.P.A.S.I., this question will be discussed, although, as a matter of fact, it is not actually included on the Agenda. Opportunity, however, will be taken at the Meeting to arrange details, if an agreement can be come to informally. The Chairman, U. P. A. S. I., we understand, suggests that each District Association might be asked to subscr be Rs. 100 towards a Challenge Cup, to be competed for by teams from the different planting districts. Teams drawn together would have to make their own arrangements as to where they played off their ties, but the semi-finals and finals might be played off at some central spot, such as Bangalore, where we might start a planters' week. Coimbatore has been suggested, but it seems doubtful if accommodation could be found for so many men at one time. The Chairman thinks the tournament should be confined to out-door games, such as Cricket, Tennis, Golf, Hockey, etc., and the only argument we can think of at the moment against this idea is the need for something to do in the evenings after the day's sport. We see no reason why Bridge and Billiards or Snookers should not be included, provided

these games are given only a nominal number of points, commensurate with their position in regard to what may be termed the more manly games.

We do sincerely hope that some workable scheme will be decided upon. It is a great thing in a community such as ours to meet occasionally on some pretext other than the eternal round of politics. It means considerable devotion, of course, to practice games on the part of Estate Superintendents, and the time thus spent may not always be looked upon as time well spent by the powers-that-be. Let us hope that a little broadmindedness, a little commonsense, will actuate those above in considering the well-being of those below and that this most promising idea will be fostered and developed so that the *esprit de corps* of which one of our Correspondents wrote may indeed become a real thing in the life of the planting world of South India. Certainly we can think of no better means of attaining this most desirable end.

THE TEA INDUSTRY IN CEYLON.

The *Times of Ceylon* publishes the following leader in the issue of 9th instant :—

The grave crisis confronting the tea industry of Ceylon has become so acute that the Government can no longer afford to ignore it. A number of estates—and they are not confined to the Low-country—have gone out of cultivation; others, if present conditions continue, will inevitably go out of cultivation. The position of the hapless planters and the unfortunate shareholders may be of little concern to Government, but the throwing out of employment of large numbers of coolies involves responsibility that cannot be evaded. Government can hardly plead that it is ignorant of what is happening. Some time ago an influential deputation waited on SIR GRAEME THOMSON, and emphasized the position fully. At that time the COLONIAL SECRETARY desired further information. This was supplied in the early part of last month, and from time to time since then the organizations connected with the tea industry have kept Government fully posted regarding the situation. If the evidence these authorities have supplied has not convinced Government of the gravity of the situation, we would suggest that Government approach the officials in the various tea districts, and ascertain from them what is actually taking place. If it will do this, the Government cannot fail to realise that the earnest representations that are being made by the planting community are more than justified, and, indeed, that a situation exists which demands a prompt response unless graver consequences are to ensue. The time has come when the planting industry cannot rehabilitate itself unaided. Restriction of output, beneficial though it ultimately must be, is not in itself sufficient. Practical aid must come from other quarters. Three methods of help are under consideration. At the head of the list comes the removal of the heavy loss suffered by estates in connection with rice. Secondly, there is the removal of the export duty on tea; and, thirdly, an adjustment of the shipping freights between Colombo and London. The first point is, of course, the most important, for it involves a loss, varying in degree, on every pound of tea which neither restriction nor anything else, save a reduction in price, can remove. Here is a matter on which the Government alone can help. We can well understand that it may be impossible to persuade the Indian Government to reduce their charges, but, if all else

fails, the Ceylon Government must seriously consider the question of shouldering the burden itself. One thing is quite clear. Unless this loss is removed from the estates many more properties will be forced out of cultivation and many hundreds of coolies will be unemployed, in which case Government will have to come to their assistance because there will be no one else to do so. Another sphere in which Government can immediately render assistance is in the removal of the export tax. In circumstances far less serious than those which now exist the duty on copra was waived, and there is no possible justification still further to cripple a half-stricken industry by maintaining an export tax. Lastly, there is the question of freights. At the present time there is a very big difference in the rates of freights between Calcutta and London and Colombo and London. The former is 105 shillings nett, as against the Colombo rate of 143s. 6d. nett. It will thus be seen that Indian tea is subsidized to the extent of 1½d. to 3d. per pound at the expense of Ceylon tea. Representations are now being made to the Shipping Conference to make the freights between Calcutta and London, and Colombo and London more nearly in accord. This is a matter which may be beyond the immediate control of Government. The other two—and the more important—sources of help are not. The removal of the export duty can be done literally by a stroke of the pen; the rice situation offers no insuperable difficulties. The point Government must realise is that, if the estates cannot feed the coolies, Government will have to do so, and it is surely better to bear a partial cost and keep the estates in cultivation than to bear the whole cost and have the estates abandoned. It may be perfectly true that the period of depression will not last long. We hope that this expectation will prove correct. It must be recognised, however, that the depression has lasted long enough to cause several estates to go out of cultivation, and it will assuredly last long enough to compel others to go out of cultivation unless help is given to them. A Micawber-like policy of waiting for something to turn up has lasted too long. Immediate action is necessary. To-morrow may be too late.

TEA IN ASSAM.

By the Assam correspondent of *the Indian Scientific Agriculturist.*

Fine Tea.

More interest is now being taken in manufacture than has been the case for years. Some of my first experiences in this direction were on the lines laid down by the late Mr. Madden of Panitolla. It was one of his maxims that to make good tea no bad leaf should ever came near the rolling tables, and that it was impossible to pick out the red stalk and red leaf after the actual manufacture had started. A gang of small boys was always kept picking out bad leaf from the withering *chungs* where, of course, it is very easy to see when the leaf is half withered. Mr. Greenish's manufacture at Letakajan was perhaps the best I have ever seen in Assam. Letakajan, in those days used to make a profit of nearly four pence per pound on a crop of 6½ maunds per acre. Mr. Greenish's manufacture was really simple and automatic, one maund of pucca tea only was made out of each rolling table of green leaf. To fill the rolling machines too full, Mr. Greenish always considered was a certain method of destroying the tip. Pabbojan now, I believe, rolls without tops to the rolling tables, and gets about one and a half maunds of pucca tea out of each table. No one can deny

that Pabbojan makes real good tea, the only question is whether Pabbojan would make better if they had more machinery and manufactured on Mr. Greenish's lines. I believe the Jhanzie Co. still adhere to Mr. Greenish's system, and certainly their results are uniformly good. I noticed the Selang Division profit per acre for 1919, and it is not one that Mr. McKeith, the Manager, need be much ashamed of. The *jat* of the Selang Division is nothing to write Home about, and Selang is by no means a young garden. The greater credit is due to the Manager for the excellent results in price. per pound, outturn per acre and, last but not least," profit per acre." "To return to our muttons," no Manager can expect to make fine teas unless his garden is plucked at least once a week, and considerably closer European supervision will be required to ensure that the bushes are plucked clean. As soon as anything more than two leaves and a bud are brought into the Factory you may be sure the Garden is not trying to make fine tea, but comes into the " good medium" class, a description which covers a multitude of sins. Some time ago I remember Mr. Crowe, of the Assam Frontier Co., saying that some of his Managers did not seem to know what two leaves and a bud were. They started from the top, and counted the first two leaves, and the rest, consisting in some cases of two or three more leaves and some healthy stalk, was counted as bud. Directors at Home must realize though, that to make fine tea more labour is required, cost of plucking will go up about 3 annas per maund of pucca tea, and the estimate of the year's crop must be thrown into the waste paper basket.

Doctors in Assam.

What a good example these devotees of science are to us poor agricultural labourers in Assam. To meet one of our energetic Doctor Sahibs is to provide another spur to duty. As a class, they burn the midnight oil, or preferably the Company's Kerosine, far into the night to keep themselves abreast of the latest discoveries in medicine. Real inspiration can be got from a newly arrived Dr. Sahib, how quickly the new comer buckles to with a munshi to learn the language thoroughly, and as a class, our Dr. Sahibs are wonderful linguists, often using expressions which even natives of the country cannot understand. A capable Doctor Sahib does much for the Gardens that employ him. I have before me now a weekly report book, and I pick out a few items at random. " The Doctor Babu has used too much "Santonine," this month." " Most of your water sores are in No. 5 line," " I inspected this line found it very dirty, and the main drain stopped up." " Sukermoni, woman Gatwa Caste, is in a very run down condition, I sanction one murghi per day for her for seven days." You may perhaps say that all these are trifles, but trifles make perfection. We take off our hats to the Doctor Sahib.

Oil Engines.

The strike on the Dibru Sadiya Ry., will assist considerably in popularizing these in Assam. With some gardens paying 14 annas per maund for their coal landed on the garden, oil engines can usually pay for themselves in four to five years. A Marshall's engine and boiler can make one maund of pucca tea for just under one maund of coal, the dryers, of course, using about another maund of coal per maund of tea. Power alone, where engine and boiler are used, costs an average of twelve annas per maund of tea made. The power from an engine of the semi-Diesel type will cost about 2 annas 6 pie per maund of tea made. A garden making a crop of 8,000 maunds of tea ought to save at least Rs. 4,000 per annum, and pay for a new oil engine

in about five years. The best oil engines (I make no charge for the advertisement) for tea are probably the Ruston, the Tangye and the Crossley and the Agents for those firms are good enough business people to keep large stocks of spare parts in India, and will send reliable experts to erect the engines and overhaul later if required. In the newer engines the cold starting engine of the high compression type is standard, which does away the blow lamp nuisance. One thing we do require is better engineers for tea now. An ordinary six rupee cooly cannot *chell* an oil engine in the same way as he did the old Marshal K Type.

A sacrifice of two white cocks, or even dropping some blood on the cylinder will not always make an oil engine go, and the European Engineer Assistants we get from Home must have learnt something more in the shops than how to fill in a foot-ball coupon, the names of the movie stars, and the art of smoking cheap cigarettes.

Our Tea Propaganda Campaign in America.

The whole of the Industry up here is keenly interested as to how this is going. I heard from the States last week that Grocers are making huge profits buying tea at 35 cents per pound, and selling it at two dallars. There is profit enough on the sale of tea to make it worth every grocers while to push the sale. In the last report I saw of our publicity committee, they asked for time, and to be excused for their disappointing results on the plea that it was impossible to build up an efficient propaganda department in a short time. Napoleon, we know, said there was no such word as impossible, and Lord Kitchener had to build up a bigger thing than a Tea Publicity Department at the end of 1914. I may well hesitate to make such a comparison, but unless the men at the head of our Publicity Department are big, energetic, able men, and put some heart into their job, they will fail in 1921 in the same way as they have failed in 1920. Excuses don't cut any ice ; the fact remains that the supply of India Tea exceeds the demand, and until these positions are reversed our Publicity Department is a failure. North America should be cut up into about ten districts, with a good man in charge of each. We should advertise right now for men to take these positions at a salary from £500 to £1000 per annum, all expenses paid, and a one year or two years agreement. Money should be allotted for this advertising campaign. Diaries would have to be kept, and weekly reports and statements of accounts submitted. If, at the end of one year, your Agent shows you no results, fire him quick, we have not the time to wait for people to make good. We have come to a crisis in Tea, and the job must be done "at the double." A Sylhet Planter writes to me suggesting that 20 girls should be sent round America hiring a big hall in every large town and giving demonstrations every afternoon as to how tea should be infused. They should give away free cups of tea, and at the same time sell one pound packages of tea retail, which would pay a part of the expenses. I have also had another letter suggesting that the cinematograph should be used as a medium for propaganda, A very interesting film could be made of the Tea Garden work, opening out forest, preparing nurseries, planting poolies, pruning, hoeing and plucking, then the manufacture in the Tea House, finishing up with Mary Pickford, or some other star preparing the Tea. If the film was a really good one, it would be exhibited all over America, and influence the movie crowd to an extent that would not be possible for the girls to do.

INDIAN TEA ASSOCIATION

The Indian Tea Association publishes the following figures for information.

Exports of Indian Tea from Calcutta, Chittagong and South Indian Ports.

	1920. lbs.	1919. lbs.	1918. lbs.
Sailings to Great Britain from Calcutta in Sept. 1920 Black 14.530,349 Green *Nil.*	14,530,349	16,260,014	22,692,575
Sailings to Great Britain from Chittagong in Sept. 1920 Black 2,266.213 Green *Nil.*	2,266.213	4,203,501	10,252,883
Sailings to Great Britain from 1st April 1920 to 30th September, 1920 (including Chittagong) ...	81,397,0 7	117,718,311	141,552,134
Sailings to Australia and New Zealand in September, 1920 ...	549,018	111,906	100
Sailings to Australia and New Zealand from 1st April 1920 to 30th September 1920 ...	2,776,076	582,882	2,348,741
Sailings to North America in Sept. 1920 Black 986,821 Green 228,111	1,214,932	1,540,095	294,133
Sailings to North America from 1st April 1920 to 30th September 1920	3,840,516	3,081,753	1,166,879
Sailings to other places in September 1920 (see below) Black 3,347,525 Green *Nil.*	3,347,525	1,083,041	1,156,831
Sailings to other places from 1st April 1920 to 30th September 1920	6,951,162	4,644,017	8,442,910

The following are the shipments from Southern Indian Ports during the month of September 1920, *viz* :—

		lbs.
Cochin—		
To London ...	479,419	
Asiatic Ports...	12,529	
		491,948
Tuticorin (direct)—		
To London ...	1,058,135	
Colombo ...	44,799	
		1,102,934
Quilon— ...	Nil.	
Alleppey— ...	Nil.	
Calicut—		
To London ...	583,362	
Colombo ...	75,255	
Bombay ...	1,260	
		659,877

	2,254,759	374,920	3,597,698
Do. do. from 1st April to 30th September 1920 ...	13,234,128	10,797,194	14,401,937
Total Sailings from 1st April to 30th September 1920 ...	108,198,979	136,824,187	167,912,601

* Exports of Tea from Ceylon as per Ceylon Chamber of Commerce Price Current Figures.

						lbs.
Total Exports from 1st Jan. to 25th Oct. 1920				...	Black...	149,864,951
Do.	do.	do.		...	Green...	2,721,189
Do.	do.	do.	1919	...	Black...	149,776,798
Do.	do.	do.		...	Green...	2,093,725
Do.	do.	do.	1918	...	Black...	139,385,861
Do.	do.	do.		...	Green...	1,173,047
Do.	do.	do.	1917	...	Black...	151,310,452
Do.	do.	do.		...	Green...	2,611,608

* These figures are obtained from manifests completed up to 25th October 1920 incomplete manifests prior to that date are not included.

Statement showing the destination of exports of tea to sundry ports during the month of September, 1920.

	lbs.	lbs.
Africa—East Protectorate ...	1,200	
Do do. Portuguese ...	4,995	
Bahrein Islands ...	33,663	
British West Indies ...	5,605	
Chile ...	775,150	
Cuba ...	600	
Egypt ...	105,934	
France ...	310	
Germany ...	50	
Guiana—British ...	4,266	
Hong-kong ...	10,050	
Mauritius ...	14,704	
Peru ...	118,875	
Persia ...	675,237	
Siam ...	625	
Straits Settlements ...	32,741	
Turkey—Asiatic Persian Gulf ...	1,028,852	
		2,812,857
Rangoon ...	141,794	
Akyab ...	6,395	
Bombay ...	376,074	
Karachi ...	10,134	
Port Blair ...	271	
		534,668
* Total...		3,347,525

* The above figures are included in the exports shown above.

THE SCIENCE OF CULTIVATION.

The word cultivation is often used in a broad sense, including the whole process of crop production. In the following article it is, however, restricted to denote the preparation of the land for the future planting of crops.

From prehistoric times, man has prepared the soil for crop production by the use of implements, first, hand implements, such as the spade, fork, rake and hoe: later on, animal-drawn implements, such as the plough and the harrow. Up to quite recent times, no further development in the power employed in propelling these instruments of cultivation was possible beyond this manual and animal force. About the middle of the last century, however, the power of steam was utilized, and steam ploughs became a factor in cultivation. In the last few years, the development of internal combustion engines has rendered the employment of this power possible in the case of many other and lighter implements of cultivation than the plough. In fact it may be said that the present problem of cultivation is that of providing suitable machinery for drawing cultivation implements on the land.

The urgency of the problem has been recognized by the British Board of Agriculture, which in May 1919 appointed a Committee to 'arrange for the testing, adaptation, and improvement of machines likely to prove of value to agriculture, to examine inventions and new devices, and to advise as to the further steps which should be taken to promote the development of agricultural machinery.' The report of the Committee has recently been issued, and is full of valuable information to agriculturists all over the world.

The well-known conservatism of farmers and planters, which makes them chary of adopting new methods or new labour-aiding devices, is perhaps due to a great extent to their unfavourable financial position in the past, as well as to the influence of tradition and social environment. At the present moment, agriculture is passing through a period of change. The agriculturist is, on the whole, in a much better position to purchase new machinery than he has been for many years, and the upheaval caused by the war has done much to modify his outlook.

Among those who gave evidence before the Committee referred to above was Dr. E. J. Russell, F. R. S., the Director of the Rothamsted Experiment Station, whose remarks and suggestions seem particularly worth the attention of agriculturists everywhere. As Dr. Russell said, the urgency of the problem of providing suitable machinery for cultivation is indicated by two considerations: (1) the shortages of skilled manual labour, (2) the great increase in the cost of agricultural operations, which increase does not seem to be likely to diminish in the near future.

The advantages of the use of agricultural machinery for cultivation are, amongst other things: (1) increased output per man, (2) increased interest to the best labourers and boys, inducing them to remain on the land, (3) a great increase in the power of carrying on work whenever it is found to be most advantageous. A tractor can do so much more work than a horse that, by its employment, it is possible to get ploughing, for instance, done at the very time which is most favourable.

Dr. Russell pointed out that at present there was no exact basis of knowledge to go upon in connexion with agricultural machinery, so that it was impossible to lay the exact requirements of the farmer before the implement maker.

Every agriculturist knows, in a general way, that he wants to improve the tilth of his land, but that does not convey much information to the engineer, and consequently, without more precise information, empirical methods of testing machines have to be relied on, which are unsatisfactory.

It is probably not generally realized that the basis of cultivation, in the sense of the word defined above, is still empirical. As Dr. Russell points out, cultivation is now, so far as the science of it is concerned, in the position that manuring was in 1840. Then the art of manuring was tolerably well advanced, and men knew in a general way that if they put certain substances on their soils they would get certain results; but they did not know why they got these results, and consequently no chemical manufacturer was able to help them much. As the result of experiments started at Rothamsted in 1840, and continued later on, it became possible for the agricultural expert to state to the chemical manufacturer that he wanted such and such substances, and the chemical manufacturer was able to ascertain how he could produce those substances in the best and quickest way.

What is wanted now is to bring the science of cultivation to such a scientific position that the agriculturist can tell the engineer, as precisely as he can tell the chemical manufacturer, just what his needs are; the engineer will then be able to provide, much more exactly than he can at the present time, the absolutely suitable implements.

There are directions in which information is wanted by engineers and implement makers. With regard to cultivation, it is known in a general way that a crumb-like structure of the soil ought to be got in order to secure a good tilth, but the causes that produce this desirable condition are not really known, although some information about them has been obtained. If these causes were better known, more definite information on the present methods of cultivation could be given, and ways in which these methods could be improved could be pointed out. In order, therefore, that the science of cultivation may be developed, it is necessary to secure a very full knowledge of the physical forces involved. Probably all the physical information wanted for the science of cultivation has been obtained by physicists, but the work of bringing it together, from the agricultural point of view, is the present need.

Further, it is necessary to know much more than is at present known about the cohesive power of soils, and the way in which this is related to the mechanical composition and other properties of the soil.

Lastly, the effect of various factors, such as the quantity of organic matter, the amount of water present in the soil, and the composition of the soil, on its cohesiveness, and its resistance to the passage of implements, and on the facility with which it will attain a tilth are necessary to be known

All these problems involve scientific experiment, which, if carried out properly, would give a great deal of invaluable information as the basis of the science of cultivation.

Having secured the necessary knowledge as the basis for the science of cultivation, the next step would be practical work, where an endeavour would be made to find out the best kind of machine to produce the effect found to be desirable. This work would probably develop in the same way as the science of manuring developed. In this case, no progress was possible until chemistry advanced, and until the nutrition requirements of plants had been worked out. In the science of cultivation, therefore, the first step will be the determination of the physicial constituents of the soil; the next, the question of tilth; and finally, the problems presented by specific implements of cultivation. Until the first step is accomplished, it is not possible to say what is the best kind of tilth, or

which is the best type of plough, or even whether some better type of implement can be devised. On the other hand, it will be possible, with a fuller knowledge of the constitution, to investigate the mechanical effect of the soil on a tillage implement.

Ultimately, the soil physicists should be able to assist the agricultural engineer by giving a specification for the design of any particular implement to meet any particular condition of soil. Agricultural implements are designed to meet a hundred different kinds of conditions, which are the result of the interrelation of perhaps half a dozen factors. The work of the soil physicist would consist in analysing those factors, and reducing them to some sort of formula. He will then be able to give the engineer the equation expressing the relation between those sets of factors.—(*The Agricultural News.*)

PLANTERS' SALARIES.

The high cost of living, by reason of the steady rise in the prices of foodstuffs, and all articles of clothing, furniture, etc., is one of the chief subjects engaging the attention of a very large percentage among all communities in nearly all quarters of the globe. Admittedly the war was the sole cause of the trouble, for fresh taxation had to be imposed to meet the growing demands on the imperial coffers as well as on colonial revenues, and, to-day, we find ourselves confronted with an approximate rise by 100 per cent. in the general cost of living, compared with the pre-war days of 1914. These increases apply not only to Malaya, but nearly every British Colonial possession. The subject is of the greatest concern to the salaried European community, resident in tropical regions, which had adapted itself to the conditions obtaining in the normal times. Familied men have no doubt carefully considered the *pros* and *cons* of the subject, and arrived at the common decision that the only solution to the problem lay in the obtaining of a proportionate increase of salary. In the case of Government servants, their grievances have been redressed, and their scale of salaries has been revised, and increases have also been granted similarly in a good many other colonies. The subject, however, is not only of concern to Government servants, who, after all, have more advantages than the European dwelling in the city or estate planter. The public servant has the benefit of a bungalow, or a substantial house allowance; but the residents of the more populous centres in the city have to face a heavy expenditure in regard to bungalow rentals. In the case of European clothing, the cost of apparel is found to have increased by 50 to 75 per cent. All cases considered, the planter is evidently the party hardest hit, and taking the average assistant's salary at $300, it is all absorbed in the bare necessities of life, leaving nothing for doctors, medicines, club subscriptions, etc. Then there is the married man. Several Companies may be against young men marrying, but this is a wrong policy to follow, for, his added responsibilities steady him, make him more dependable as an assistant, as a rule, and he is not often sick from one cause or another. This does not argue that married men should be chosen as assistants, but certainly marriage should be encouraged, and not discouraged. No one will deny that marriage, coupled with his sense of responsibil ty, gives a man the spur to do his best for himself, and his wife and family. In the case of married men, the very lowest figure that a man and wife can possibly live upon at the present time is $500 per month, and where is he to provide for Life Insurance Policy, sickness, Club and P. A. subscriptions? It is worse when a child or children have to be considered. It will, therefore, be seen how totally inadequate a married man's income nowadays is to

enable his meeting the several unavoidable calls made upon him. Though the war has affected the cost of foodstuffs, the planters' status has not depreciated, and it is hardly right that he should be made the sufferer, in that the salary which he was drawing in 1913, though figuratively the same now, yet in value has had a setback: that is to say, taking his salary before the war as being $500 per month, the equivalent, to-day, if it is assumed that living has risen 50 per cent., would be $750; whereas he is the actual loser by $250, if he still draws $500. If the assistant's salary is accepted at $300 per month, is it commensurate with the present cost of living?

The time has arrived when Directors of Companies must realise the necessity for making the conditions of living as comfortable as possible for a European who has to spend the best years of his life in a tropical climate; and health is the primary consideration, as well as a very considerable asset to an estate. A man in poor health cannot be expected to put heart and soul into his work. It must also be taken into consideration that the great strain put upon an estate manager, owing to the enormous worry over working labour during these troublous times, necessitates more frequent holidays. It is, therefore, incumbent to make an improvement in the general conditions under which planters have to live.

Taking Ceylon as an instance, the Government were the first to take action to increase the salaries of members of the Civil Service, and this was followed by a wholesale increase of salaries in the Railway department, Clerical Service and all branches of the public service, right down to the humblest cooly, on a percentage basis in accordance with the salary each class or man was entitled to. Later on, the mercantile community did likewise, and, after consideration among heads of firms, a general increase was paid, affording appreciable relief to all concerned. The planting community of the island, an influential and powerful body, took up the matter quite recently and, at a big meeting of the Planters' Delegates in Kandy, a paper was read by Mr. J. Farby Elford on the subject of increased cost of living, which, at the Delegates' wish, was published in order that the position of the planter, who has to live to-day on his pre-war salary, may be clearly realised. The conditions of living in Ceylon and Malaya are about the same, and comparisons are unnecessary. Every commodity of consumption, and goods of any description, which may have been affected in the premier Crown Colony, have been similarly affected in British Malaya, and the facts and figures quoted, as well as the arguments adduced, have a common relation in general to both places.—(*The Malayan Tin and Rubber Journal.*)

NOTES ON THE SUGGESTED TEA RESTRICTIONS.

The statistics furnished by the Indian Tea Association continue to show figures greatly below the exports of the years 1918 and 1919. The Ceylon figures, on the other hand, although less than in the year 1917, show a slight increase over 1919, and an advance of 10½ millions on the exports for 1918.

* * * * *

The market for Tea in the middle of last month was typical of recent times. Fine to good teas continued to sell at full prices, but values of medium, and more especially common Teas, which are greatly in excess of requirements, were easier, a large quantity of the latter having been knocked down at 3d. per lb. A week later, all grades

sold at lower rates, broken and common leaf being the weakest feature, and a large quantity was withdrawn. Matters, since then, would seem to have improved as, according to a "Statesman" cable, Messrs. W. J. and H. Thompson report a gradual improvement in tone developing into a distinct advance. The quotation for clean, sweet, liquoring Pekoe Souchong at this week's auction was 6d. per lb.

* * * * * *

The Ceylon Weekly Price Current, dated 1st November, shows only 130 lbs. Ceylon Tea exported by rail *via* Talaimannar to S. India since the last report. This parcel was for Trichur.

* * * * * *

" Mr. L. Hume King writes the following letter to the " Ceylon Times," under the heading " Methods of Restricting Tea Output".

Sir,—If we are really going to restrict tea crops from January 1st, I think Mr. Symon's idea of putting the Pke. and Pke. S. on the land is quite sound. In the usual method of manufacture, the percentage of Pke. and Pke. S. come to very nearly 20 per cent. of the outturn. This is, I believe, the amount to be restricted. For the sake of argument, let us take a crop of 100,000 lbs. This, reduced by 20 per cent., equals 80.000 lbs. Now, if we make Pke. and Pke. S. as usual, the nett result will be, roughly, 64,000 lbs. of the higher priced grades and 16,000 lbs. of almost unsaleable Pke. and Pke. S. If we make the same amount of tea as usual, say, 100,000 lbs. and then put the 20 per cent. outturn of Pke. and Pke. S. on the land, we shall then have 80,000 lbs. of tea as in the former case. but it will be made up of only the higher-priced grades, and no Pke. or Pke. S.

The only extra cost will be the plucking of leaf for the 20 per cent. of Pke. and Pke. S. Manufacture and other charges will not be affected. Against this cost of the plucking must be considered the fact that it will not be necessary to increase one's plucking rate at all—as will be necessary in many cases on estates giving low yields—in order to enable pluckers to earn their usual pay ; and this will also help to save upsetting one's labour by reduced pay for pluckers.

Another advantage would be that it would save a great many of the numerous and elaborate schemes for bringing about the 20 per cent reduction, and not disorganise the work.

The general method will probably be to reduce leaf grades by cutting and recutting and taking out B. P. etc., from the cut Pke. and Pke. S. Even this will not entirely eliminate the Pke and Pke S., and I think most Superintendents will find that the B. P., etc., obtained from the cut Pke. and Pke. S. will, if mixed with their usual B. P., etc., spoil these grades, especially in the liquors. The alternate would be a B. P. No. 2. but this will fetch very little more per lb. than the original Pke. and Pke. S."

* * * * *

A correspondent suggests the manufacture of Caffeine by Planters. We are indebted to him for the following information. Caffeine, or Caffeina (Synonym Theine), is an alkaloid usually obtained from the dried leaves of Camellia Thea, or the dried seeds of Coffee Arabica crystallised from an aqueous solution. Tea yields 3% and coffee 1%. According to Rutherford, Tea contains (*vide* Bamber) 3.80% Theine. Dr. H. B. Paull, F. C. S. gives the following analysis of Ceylon Pekoe.— 4·44%. 4·74%., and 3·86%., and Assam Pekoe, 4·35%., and 4·44% of Theine. One analysis went as high as 74·89%. Thus, on a 4% basis 25lb tea would give 1 lb. Caffeine. Can anybody furnish further information, such as method of extraction, cost of plant, etc,

MANURING TEA IN CEYLON

BY

THE CEYLON CORRESPONDENT OF THE "INDIAN SCIENTIFIC AGRICULTURIST."

The prices ruling at the Tea sales during the last three months have been such as would at first sight appear to discourage planters from spending any money on the manuring of a crop giving such d smal returns. Fortunately for the industry, however, it is very generally recognised that the slump in tea is only a temporary misfortune and that, however d stressing the present state of the market may be, there is every indication that we may confidently look forward to a more prosperous time next year.

Suggestions have indeed been made that the output of tea should be reduced, but the experience ga ned during the war when this procedure was applied to rubber was such that planters are reluctant to employ it again in the case of tea. The cost and trouble of getting the rubber trees back into full bearing again far outweighed the benefit obtained from the effect on the market of the reduced output.

There is probably no country in the world where such heavy dressings of manure are applied as in Ceylon, where it is no unusual thing to find half a ton of artificials per acre applied to tea. These large dressings and the remarkable uniformity in the mixtures used on different estates are chiefly due to the influence of the famous dressing prescribed by Mr. Joseph Fraser many years ago and which is known throughout Ceylon as the "Eight hundred and forty pound tea mixture."

The universal popularity of this mixture was due almost as much to the personality of its inventor as to its excellence as a dressing for tea. Mr. Joseph Fraser was known all over Ceylon as an experienced and successful planter, his opinion was respected by all, and it is therefore natural that a mixture prescribed by him should be adopted with little questioning by those to whom it was recommended. At the same time the fact that this dressing retained its popularity for upwards of twenty years speaks volumes for its efficacy.

Indeed it required a Great European War to oust this famous dressing from the position it had occupied for so long in the estimation of Ceylon planters, and even then it was simply owing to the impossibility of obtaining some of the ingredients which led to the substitution of other fertilisers.

The following is the prescription as it was made up until a few years ago:—

		Nitrogen.	Phosphoric acid.	Potash.
lbs.		lbs.	lbs.	lbs.
200	Groundnut Cake	14·0	...	...
320	Crushed Fish	12·8	12 8	...
80	Blood Meal	8 8	...	...
80	Sulphate of Ammonia ...	16·0	...	...
80	Nitrate of Potash ...	8 0	...	26·4
30	Concentrated Superphosphate ...	...	12·6	...
50	Sulphate of Potash ...	...	...	25·0
840	per acre	59·6	25·4	51·4
In addition to the above there were buried with the prunings.				
200	Basic Slag	...	36·0	...
80	Sulphate of Potash	...	...	40·8
1,120	per acre	59·6	61·4	91·4

Whilst some minor alterations have been made from time to time to suit the peculiarities of individual estates the mixture has, generally speaking, been subjected to remarkably little variation during the whole of the time it has been in use ; the only universally adopted changes of importance were as follows : —

The Nitrate of Potash was increased from 80 lbs. to 120 lbs ; the Sulphate of Ammonia was increased from 80 lbs. to 120 lbs. and the Groundnut Cake was reduced from 200 lbs. to 120 lbs. in order that the total weight of the mixture should remain as before. The significance of these changes will be dealt with later.

It will be observed that the ratio of nitrogen, phosphoric acid and potash was, in the original mixture, (in round figures) 60—61—91 ; whilst in the amended mixture this ratio was altered to 64—61—105.

The frequency with which this dressing was applied depended largely upon the elevation of the estate and the consequent frequency of pruning, but on an average it may be sa d to have been applied once every two years.

This was the state of affairs so far as concerns the manuring of tea in Ceylon until the advent of the Great War.

The first result of the war was of course to render precarious the supply of those ingredients which have to be imported from distant countries. Frequently the supply stopped entirely and so planters were forced to substitute other manures in place of those originally prescribed. The question as to how best to effect this substitution naturally led to a closer and more careful analysis of the mixture as a whole than had been made during previous years, and in spite of the many excellencies of the mixture and of the splendid results it had given the impression slowly gained ground that it was still capable of improvement in several directions.

It will now be interesting, and not unprofitable to trace the changes which have occurred during recent times since the popularity of the famous, Eight hundred and forty pound mixture first began to wane, and to analyse those changes with a view to arriving at a clear conception of what the future policy will be.

Not only did the war upset the supply of fertilisers, but it also resulted in an enormous increase in their cost. The eight hundred and forty pound mixture was a lavish dressing composed of expensive manures, moreover in reality it amounted to half a ton to the acre and the freight charges were consequently great. Even at the prices ruling in Colombo at the present time the original mixture would now cost 108 rupees per acre, whilst the amended mixture would cost no less than 116 rupees per acre, and during the war these prices were much higher still. Little wonder therefore that planters began to cast around for a less costly dressing and one if possible of smaller bulk.

It was the vital necessity for reducing the cost of this mixture which first led to the enquiry as to whether it was worth while retaining so many different sources of nitrogen, particularly in view of the fact that these sources of nitrogen are amongst the most expensive on the market.

At first sight it may be difficult to understand why so many different forms of nitrogen were included in the one mixture. As a matter of fact this was an attempt on the part of the originator to provide a constant supply of nitrogen to the bushes throughout the whole of the period elapsing between two dressings. The presumption was that the Nitrate of Potash, being immediately available, would be taken up by the plant as soon as it was dissolved in the soil water. The Sulphate of Ammonia, in which the Ammonia has to be converted into nitrates before being absorbed into the root hairs, would be ready for the plant when the

Nitrate of Potash had become exhausted. Next would follow the Blood Meal and then in turn the Crushed Fish and the Groundnut Cake.

In theory no doubt there is much to be said in support of this presumption, to take the extreme cases, it is obvious that the Nitrate of Potash will be taken up by the plant long before the Groundnut Cake has been rendered available in any quantity; but whether each of the various fertilisers would actually mark time, as it were, until its turn came to be used is at least open to very considerable doubt.

But the chief objection to this theory is that it smacks too strongly of "Spoon-feeding." The tea bush is, or should be, a vigorous healthy living thing which draws the greater part of its substenance from the earth in which it grows. The sole object of manuring should be to make good any deficiency of essential food stuffs in the soil, not to replace those food stuffs by manure. In other words the tea bush should, as it were, look to the soil for its nitrogen; if the soil does not contain sufficient then that insufficiency should be made good by means of manure, but no attempt should be made to supply the whole of the bush's nitrogen requirements by means of manures.

It may here be mentioned that it was chiefly due to a consideration of this principal that the original mixture was altered some few years ago by increasing the Nitrate of Potash and Sulphate of Ammonia at the expense of the Groundnut Cake. This was undoubtedly a step in the right direction in so far as it attempted by means of providing a larger proportion of available nitrogen, to induce vigorous root development, so that when all the nitrogen had been absorbed there would be left a sturdier stronger bush capable of extracting its future nitrogen requirements from the fresh soil into which the newly grown rootlets had penetrated.

With the rise in prices the modern tendency is to carry this idea very much further; to reduce considerably the proportion of organic manures, which are so expensive per unit of nitrogen, and to make good the necessary supply of organic matter by increased applications of green manures which can be grown on the estate.

So much for the financial considerations which have brought about a change in the nature of the manures applied to tea. There remain to be formulated the changes due to an examination of the eight hundred and forty pound mixture from a chemical point of view.

There is little doubt but that the long continued use of this mixture is responsible to a large extent for the markedly acid condition of the great majority of Ceylon tea soils.

The Sulphate of Ammonia and Concentrated Superphosphate used in this mixture are of course both actively acid, and they consequently make large demands upon the lime in the soil to neutralise this acidity. At the same time Blood Meal, Crushed Fish and Groundnut Cake, in common with all organic manures, deplete the store of lime in the soil since the bacteria which bring about their fermentation give rise to various acids all of which require to be neutralised.

Finally there is the question of the proportion of nitrogen, phosphoric acid and potash best suited to tea. The excellent results given for so many years by the mixture under consideration prove that, as regards nitrogen and phosphoric acid, Mr. Fraser was not far wrong when he prescribed approximately equal quantities of these two ingredients. Where any deviation has been made from this proportion it has been in favour of a slightly higher percentage of nitrogen.

As regards potash, however, the general concensus of opinion tends to shew that this substance is of little value when applied to tea. For some

months past a fitful correspondence has been carried on in the Press concerning this question, but even the letters from those who are in favour of potash have been singularly free from anything approaching proof of its utility. At the same time, until the precise effect of potash on the tea bush is more clearly understood, it is generally agreed that it would be unwise to leave it out altogether.

An ingenious method of evading this question has been adopted by many planters during the last few years. A small quantity of Sulphate of Potash or Sylvinite is included in their mixtures and at the same time the nitrogen is supplied in the form of Nitrate of Soda. This policy makes use of the fact, insisted upon so emphatically by Sir A. D. Hall in his "Fertilisers and Manures," that the soda in Nitrate of Soda liberates potash from the insoluble soil compounds and renders it available to the crop.

At this point it would be well to summarise the above observations in order to get a clear idea of the features which must be possessed by a mixture which is to replace the old favourite.

In the first place it must be substantially cheaper than the eight hundred and forty pound mixture.

It is desirable that it should be less bulky.

Whilst retaining a certain amount of organic matter the greater portion of the nitrogen should be in a more readily available form.

It must be non-acid.

It must contain approximately equal amounts of nitrogen and phosphoric acid and a much smaller amount of potash.

It would of course be impossible to lay down the composition of all the new mixtures which have been devised to replace the old one: their name is legion. The following is, however, typical of many of those which have found considerable favour during the last few years:—

lbs		Nitrogen. lbs.	Phosphoric acid. lbs.	Potash lbs.
200	Fish Guano ...	15	17	...
200	Nitrate of Soda	30	...	...
100	Ephosphosphate	...	30	...
50	Muriate of Potash	...	...	26
550		45	47	26

Application—550 to 750 lbs. per acre.

This mixture is much more concentrated than the old one, and therefore much less bulky, at the same time it is very much cheaper; indeed it answers remarkably well to the conditions set out above, which no doubt accounts for its increasing popularity.

But the uniformity which was so striking a feature of the manuring of tea in Ceylon before the war no longer exists. Once a break-away from the old eight hundred and forty mixture was made, each planter worked on lines of his own and endeavoured to solve the problem according to the factors governing his own particular circumstances.

It is highly improbable that any one mixture will ever again attain to the universal popularity of that prescribed by Mr. Fraser, but there is little doubt but that the new mixtures will conform to the principles outlined above and it would not be surprising to find them approximating in a greater or less degree to the 550 lb. mixture herein set forth.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE

(BY CABLE.)

LONDON, 19TH NOVEMBER, 1920.

116s./- per cwt. Market quiet.

EDITORIAL NOTES.

Editorial.

The Editor of the paper is away from Head Quarters, so the task of compiling this number has fallen on the general staff of the Office, and we must ask readers to excuse the absence of the usual Editorial.

Malaria.

We would specially draw attention to the new form of treatment of malaria by means of quinine, outlined in the circular of the Medical Officer of the Jharia Mines Board of Health, and which is included in the report of the proceedings of the Indian Tea Association, published in this number. It seems well worth giving a trial, and we shall be glad to receive and publish any report as to the experience of subscribers.

Delays.

It may seem to many of our readers, that an apology on our part is due for the inordinate delay that has occurred in the publishing of the report of the Proceedings of the Wynaad Planters' Association Committee and General Meetings, which will be found in this number, but we can only publish these reports when they are received, and this report has been inserted by us at the first opportunity after it was brought to our notice.

Auxiliary Forces Act.

A meeting has been called at the Offices of the Secretary to Government of Madras, Special War Department, Fort St. George, Madras, to meet the Commander-in-Chief and settle details as to the number and *personel* of the advisory committees, it is proposed to create under the Act. Arrangements have been made for the U.P.A.S.I. to be represented.

Scientific Matters.

The Rubber Mycologist is, when he arrives, to be stationed at the Station built at Mundakayam, and the question now arises as to where the general mycologist, who will devote his attention more particularly to the diseases of Tea and Coffee, should be posted. Coimbatore itself is unsuitable, as neither of these products can be grown under normal conditions there, but it is advisable that he should be posted as near as possible to the Research Institute at Lawley Road, and the General Committee, when they meet on the 6th prox., will have to come to a decision on this matter. A scheme for the expansion of Entomological work is also under consideration, and the Government of India are contemplating a central Entomological Institution with head-quarters at Coimbatore, to deal with large problems of more than provincial importance and a considerable increase in the strength of the service throughout India. The proposed Imperial Entomological Institute at Coimbatore would be quite distinct from the present Agricultural College and Research Institute, which is a Madras Province Institute. Government desire to have the views of the U. P. A. S. I. on these proposals, and how they are likely to meet the requirements of Planters in Southern India for entomological work.

U. P. A. S. I. Gazette.

Planters will be pleased to learn that Mr. G. Walker, acting at the Mangalore Office of the Labour Department, is making steady progress, and is now convalescent. Mr. Winterbotham sailed from England by a steamer leaving on the 18th of this month, and should resume charge at Mangalore by the 15th December. Mr. C. H. Brock joined the staff at Head Quarters on the 26th November.

Committee Meeting.

The Secretary informs us that, so far, he has only heard from nine of the fourteen District Associations affiliated to the U. P. A. S. I., regarding the delegates they are sending to the General Committee Meeting to be held on the 6th December at Coimbatore. We regret to learn that the Hon'ble Mr. J. A. Richardson is unlikely to be able to attend.

NILGIRI-WYNAAD PLANTERS' ASSOCIATION.

PROCEEDINGS OF A GENERAL MEETING, HELD AT GUDALUR, AT 11-30 A. M. ON 11TH NOVEMBER, 1920.

PRESENT.—Messrs. J. S. Nicolls (Chairman), J. Aird (Vice-Chairman), W. B. de Courcy, P. Naylor, J. E. Bisset, G. A. Rutter, G. W. Fulcher, and F. W. F. Fletcher (Honorary Secretary). *Visitors* - Messrs. C. F. Minchin and Leslie.

The Proceedings of the last Meeting having been confirmed, the Chairman said that, before taking up the agenda there was a matter he desired to place before the Association. He had attended the last U. P. A. S. I. Meeting in a dual capacity—as a member of the Executive Committee, and as a delegate from the N-W. P. A, The Secretary of the U P.A.S.I. considered that his expenses should be defrayed by the N-W. P. A., but he was unable to subscribe to this view. The U. P. A. S. I. had had his services on the Executive Committee for the whole year, and, had he gone to Bangalore solely as a member of that Committee, the parent Association would have had to pay his expenses. He could not see that they were freed from that liability by the fact that he had also represented the N-W. P. A. The point having been discussed, the following resolution, proposed by Mr. de Courcy, and seconded by Mr. Bisset was passed unanimously :—" That, in the circumstances explained by Mr. Nicolls, this Association is of opinion that his expenses should be paid by the U. P. A. S. I."

REPORT OF DELEGATES TO THE U. P. A. S. I. ANNUAL MEETING.—Mr. Aird, on behalf of Mr. Nicolls and himself, read the following report :—

" Gentlemen,—We attended the Meeting of the U. P. A. S. I. in Bangalore, on August 23rd, and following days as your delegates, and as members of the General Committee, and the following is our report :—

" LABOUR DEPARTMENT AND LABOUR MATTERS.—This was the subject of all others in which we were, and are, most vitally interested. Two reports on possible new recruiting areas were before the meeting—one by Mr. de Courcy and the other by Messrs. Eyre and Powell. The latter dealt specially with the possibilities of obtaining labour through the influence, and with the assistance of the Christian Missions at work in the Districts which they visited, and it held out hopes of help, anyhow in a small way, but it appears to us that no considerable relief to our industry as a whole can be looked for here, at least until things are more developed. There remained Mr. de Courcy's report, and as you are no doubt aware, prospects in the Districts visited by that gentleman are encouraging, and it would appear that, if the labour available can be introduced and successfully settled on our Estates, our troubles of recent years on that score should be greatly minimised, if not altogether overcome. It was resolved to open Agencies, and to appoint a Superintendent to supervise the work of recruiting, and we trust that a beginning will soon be made, and a satisfactory scheme be in working. It would appear that the old recruiting areas are pretty well worked out, so far anyhow as the present system is concerned, and it remains to be seen whether some new system can be devised, and if so how it is to be carried on."

"As regards the matter of the cancellation of the Glenvans agreement by Mr. Kent, it was decided by the Meeting that Mr. Kent's original letter should have been fuller, and that, had it been so, the situation which it brought about need never have arisen. This was accepted by your delegates, and the matter closed."

"DUTIES ON TEA, TEA CESS, and CONTROL OF PRODUCTION.—There was a strong feeling that an import duty on foreign teas should be imposed on all teas coming into this country, and a resolution was passed agreeing to an increase in the Tea Cess if this were done. It was also pointed out that the present export duty was a heavy charge on the industry, at a time when prices had fallen to such an extent, and when otherwise conditions were so adverse, and that the tax was originally, we understood, imposed as a War measure. It was decided to leave the question of the control of production in the hands of the home directorates, who were more in touch with market conditions than we were. The idea of finer plucking was not altogether approved of, and it was felt that throwing a percentage of the area out of bearing would be preferable, but the difficulties of unanimous action were recognised. Finer plucking will tend to educate the public taste to an article which there is no intention of supplying permanently, and might complicate the situation later, but you will have seen that, since the date of the Meeting, reports from Ceylon and also from this country show that, a good deal is being done in this way. I am sorry to say that since the date of the Meeting things have not improved."

"LONDON CABLE ON COFFEE PRICES.—It was resolved to continue this during the coming season, and that it should be published weekly in the Chronicle, beginning from 1st October, and continuing till 31st May. The later date will no doubt be an advantage to late districts like our own, which still had coffee to ship after the date when the cable was discontinued last year. Those who desire that the cable should be transmitted on to them by wire on receipt, instead of waiting for its appearance in the Chronicle, can intimate their wishes to the Secretary, who will arrange this."

"INDIAN DEFENCE FORCE.—At the date of the Meeting, no draft of the new bill had been received, and criticism was impossible, but it was felt that it was a matter on which we were very vitally interested. Since then, an announcement has been made by Simla which makes the intentions of Government clearer, and this you have no doubt all seen."

"RAILWAYS.—Col. Barnardiston gave us a very interesting address and explained how development was being retarded by the lack of men, money, and materials. A very satisfactory alignment of the proposed Shoranur-Manantoddy Railway had been completed, and will eventually link up with the Mysore State Railway, but when construction will begin depends entirely on improved conditions in regard to the three essentials mentioned above. The prospects of a line from Devala, through Gudalur, to the Mysore Railway seem rather remote, at least under present conditions."

"MALABAR TENANTS' IMPROVEMENTS ACT.—The bearing of this Act on our District, and on a considerable number of our members, was dealt with, and the urgency of having the Nilgiri-Wynaad included within its scope was pointed out, and our resolution on the matter was passed."

"THE BENEVOLENT FUND AND S. I. WAR FUND.—The former fund is to benefit by the balance of the latter being paid to its credit, and as this amounts to the sum of some Rs. 34,000, it should now be on a fairly sound footing, and capable, provided subscriptions are kept up, of meeting any call for assistance in a moderate way from those of our community who may be in need."

"It was resolved to ask Government for a grant of land, to be given to all planters who had joined up during the War, and it appeared from information before the Meeting that all Ceylon men, whether planters or not, were to receive this, and we believe the same policy has been adopted in B. E. A."

"SHIPPING AND FREIGHTS.—Although rates are very high, yet from information given us by representatives of the West Coast shipping firms, we, who ship our produce from there, are no worse, and in some instances better off than shippers of like produce from other ports in India."

"COLLECTION OF SUBSCRIPTIONS.—Mr. Waddington told us that he had all along been in favour of this being done by the Coimbatore Office, instead of by Honorary Secretaries of District Associations as at present, but that when the matter came up at a previous Meeting delegates were opposed to the idea."

"U. P. A. S. I. FINANCIAL YEAR.—Our resolution regarding the interval which, at present, elapses between the close of the financial year and presentation of the budget, was withdrawn in favour of one to the effect that the budget should be laid before the General Committee before the 31st March in each year. This meets our point, and is, I think you will agree with us, a preferable arrangement to the one proposed by our Association."

A vote of thanks was passed to the delegates for having represented the Association, and a sum of Rs. 200 was voted for Mr. Aird's expenses.

INTER-DISTRICT LABOUR RULES.—These were formally adopted, and the following members were elected to the Standing Labour Committee:—(1) The Manager of Mango Range Group, (2) Mr. J. E. Bisset, (3) Mr. J. H. Wapshare, or Mr. J. Aird, (4) Mr. G. W. Fulcher, and (5) The Honorary Secretary, *ex officio*.

LOCAL LABOUR RULES.— The Honorary Secretary said that the Committee appointed at the last meeting to draft these had not yet submitted their report. He read a set of rules drawn up by Mr. de Courcy to cover the labour imported from the East Coast, and now working in the District. These were discussed, and referred to the Labour Rules Committee. The Honorary Secretary was instructed to forward them, meanwhile, to the Secretary, U. P. A. S. I., with the request that he would place them before all Associations now employing East Coast labour for consideration; pointing out, at the same time, theurgent necessity for a mutual arrangement between these Associations as soon as possible, in view of the large number of coolies already imported from Ganjam and other Northern Districts.

Mr. H. C. Davies having resigned his membership of the Committee on transfer from the District, Mr. J. H. Wapshare was elected in his place.

NEW RECRUITING AREAS.—There was considerable discussion on the arrangements made so far for tapping the new sources of labour supply. The

Honorary Secretary was instructed to ascertain from the Secretary, U. P. A. S. I., on what terms coolies can be obtained.

INCORPORATION OF THE ASSOCIATION.—The Honorary Secretary said that he gathered from the Secretary's last letter on the subject, dated 12th October, that the Articles of Association had been forwarded to the Solicitors of the U. P. A. S. I., and the completion of this long-standing matter rested with them.

Messrs. J. H. Wapshare and J. E. Bisset were elected to the Committee of the Association in place of Messrs. Davies and J. W. G. Bisset.

MOTOR SERVICE TO CALICUT.—The Honorary Secretary said this matter was still in abeyance, owing to the absence of the Managing Director of the Walford Transport Ld. in England. That Company had promised to take the subject up immediately on his return.

FINANCE.—The Honorary Secretary read a letter from the Agent, Bank of Madras, Ootacamund, requesting that a special resolution might be passed empowering the Honorary Secretary for the time being to operate on the account of the Association. The following resolution was proposed by Mr. Aird, seconded by Mr. Naylor, and passed:—

> "That the Honorary Secretary and Treasurer be, and hereby is, "authorised to operate on the account of the Association with "the Bank of Madras, Ootacamund."

LOCATION OF LIQUOR SHOPS.—The Collector's letter was read, and the Honorary Secretary instructed to ask for the opening of a beer shop at Cherambadi.

CORRESPONDENCE.—The correspondence on matters of importance since the last Meeting was read and dealt with.

(Signed) J. S. NICOLLS,
Chairman.

(Signed) F. W. F. FLETCHER,
Honorary Secretary.

WYNAAD PLANTERS' ASSOCIATION.

NOTES OF A COMMITTEE MEETING, HELD AT MANANTODDY ON 13TH NOVEMBER, 1860.

PRESENT.—F. E. Richmond, Esq., in the Chair. Messrs. R. Haden, C. Y. Reed, and A. C. Barnes, Secretary.

Read the proceedings of the last Meeting which were approved of.

In reference to the Collector of Malabar's letter of the 19th September:

RESOLVED.—That the Secretary address the Collector of Malabar pointing out the desirability of the Engineer's Department taking advantage

of the present favourable season and great influx of labour for the prosecution of Public Works in Wynaad. Also to express the satisfaction of the Committee that he had brought to the notice of Government the subject of investing the Deputy Magistrate with powers of Sudr Amins and Munsiffs.

RESOLVED:— That the Secretary apply to the Collector requesting that a portion of the ferry fund be placed at the disposal of the Deputy Magistrate of Wynaad.

Notes of a General Meeting, held at Vayitri on 13th November, 1860.

For the purpose of taking into consideration the Arms Act, in its application to Europeans.

The Secretary read a letter from the Collector of Malabar with following

NOTICE.

From information received, the Magistrate is led to conclude that considerable misapprehension exists as to the necessity to take out a license for the possession of arms.

2. Parties can, on application to the Magistrate, obtain a license to carry arms, but within the Province of Malabar, unless specially called on to do so by the European Magistracy, it will not be necessary for them to take out licenses. Europeans, Americans and East Indians are not to be called on when carrying arms to produce their licenses, nor are the Police to interfere with them on account of going armed, unless they create a disturbance or commit or attempt to comit an offence. " Magisterial and police officers will still be free to act against persons of these classes under section XXV of Act XXXI of 1860, and to give a full effect to its provisions in the case of any of them who may be found carrying or conveying Arms or Ammunition in such a manner, or under such circumstances, as to afford fresh grounds of suspicion that the same are being carried by such persons with intent to use the same, or that the same may be used for any unlawful purpose, dangerous to the public peace."

P. GRANT,

Calicut, 8th November, 1860. Magistrate.

RESOLVED.—That the explanation given by the Collector renders any action in the matter unnecessary.

C. Y. REED,
Chairman of Meeting.

INDIAN TEA ASSOCIATION.

PROCEEDINGS OF A MEETING OF THE GENERAL COMMITTEE, HELD ON 9TH NOVEMBER, 1920.

(*a*) Proposed restriction of crop.—The London Committee confirmed that the alternative proposal with regard to the 1920 crop was left to the discretion of individual members, and forwarded a letter which had been received from the Chief Scientific Officer on the general question of restriction of output. It was decided to publish this letter as an appendix to these proceedings.

(*b*) Regulation of shipments of tea from India.—The Committee's cable of 7th October had been communicated to the London Secretaries of the Calcutta Liners Conference, whose reply indicated that practically all the lines, with probably one exception, had instructed their Calcutta agents to cordially co-operate with the Association to help the situation.

(*c*) Indian export duty on tea.—The London Committee urged that immediate representations should be made to the Government of India for the removal of this export duty, in view of the serious position of the industry. The strong representations towards this end which were agreed upon in the meeting of 26th October, 1920, had already been made to the Government of India, and it was decided to forward a copy of the letter to the London Committee.

(*d*) Sir James Buckingham Memorial Fund.—The London Committee approved the proposal by the Assam Branch, and endorsed by the General Committee, that the interest on the money at the credit of this fund should be handed over to the Assam Branch for grants, at the discretion of the Branch Committee, to planters or widows and children of planters in distress.

(*e*) New officers for the Scientific Department—Agriculturist.—A suitable officer had been selected for the post of Agriculturist, and arrangements were proceeding for a three years' engagement.

PROPOSED RESTRICTION OF CROP — The Committee cabled to the London Association in terms of the message incorporated in the proceedings of the meeting of 26th October, 1920, who replied as follows :—

"Referring to your telegram of 26th October restriction scheme for 1920 is supported 90% London controlled concerns, and is being given effect to. 1921 restriction will probably be generally supported provided Ceylon comes into line. Replies still coming in, and after consideration of your cable will telegraph further".

Circular No. 66-1920 published both cables for the information of members, and the position reflected in the London Committee's reply was now considered, along with two letters withdrawing two companies from participation in regard to the 1920 proposals, owing to financial reasons. In the Committee's wire of 26th October, they explained to London that the returns received in response to circular references showed that unanimity had been practically secured for 1920, excepting new gardens, and it was now felt that, while the two withdrawals were to be regretted, these need not be regarded as a justification for deferring the immediate introduction of the restrictive measures applicable to the 1920 crop. It was accordingly decided to circularise members pointing out that the proposals for 1920 were now in force and should be strictly adhered to, and explaining that no time would be lost in issuing instructions in regard to 1921, when the decision of the London Committee became known.

PROPOSED REGULATION OF SHIPMENTS OF TEA FROM INDIA.—As all but four members had expressed themselves as agreeable to restrict shipment on the lines proposed, the Committee wired to London that the proposal to regulate shipments was generally supported. The question of restricting shipments beyond 31st December 1920 was now considered, and it was decided to suggest to the London Committee that the margin of 5% might be increased to 8% after 31st December 1920, the object of the increase being to ensure that the 1920 crop would be shipped by the end of June 1921.

SURPLUS LABOUR.—The Chairman, Assam Labour Board, enquired whether, in view of the possibility that some tea concerns might now have larger labour forces than they could maintain in profitable employment, arrangements might be made to transfer the surplus labour to certain concerns, who required labour, and suggested that gardens wishing to get rid of labour should communicate with the Board.

INTERNATIONAL LABOUR CONFERENCE.—A letter from the Government of Bengal forwarded copy of a letter from the Board of Industries and Munitions, Government of India, on the subject of the questions to be discussed at the meeting of the International Labour Conference, which is due to take place at Geneva early in 1921. The opinion of the Association was particularly desired with regard to (1) the possibility of introducing a 60 hour week for agricultural labour in India, and (2) the minimum age for admission to industrial employment.

As the views asked for were in respect to labourers within the Bengal Presidency, it was decided to remit the reference to the Darjeeling and Dooars Sub-Committee for consideration and report.

THE LATE MR. WILLIAM JACKSON'S TRUST.—The Trustees of the late Mr. Jackson were now in a position to make grants from the revenue of the Trust, and that approximately £2,000 was now available for the purpose. Several applications for assistance had been received and forwarded to the London Association, and it had been decided to ascertain the present circumstances of the applicants.

MALARIA.—The subjoined copy of a circular by the Medical Officer of Health, Jharia Mines Board of Health, in the above connection, is now published for the information of members.

The attention of colliery managers is directed to a recent innovation in the treatment of malaria by means of quinine. The technique is as follows:—

1. Quinine is given only during an attack, and then in doses of 4 grains.
2. Four grains of quinine should be dissolved in a large volume of water (*not less than half a pint in volume*) to which a few drops of sulphuric acid have been added, and if Liq. arsenicalis hydrochlor be available, it is useful to add two drops of this to the drink.
3. The patient is instructed to drink the whole quantity as rapidly as possible, at the time when he is passing from the cold to the hot stage.

This procedure was introduced by a physician in Salonica who states that he treated 1,070 cases, that 960 of these recovered after not more than four doses, and that one year afterwards 750 had had no further attack of malaria.

This treatment possesses the advantages that it is very simple and most economical in the use of quinine.

I have had an opportunity of trying it only in one case, and the result was brilliant in the extreme.

My *mali* returned from Calcutta having suffered from fever for a month or more with regular daily attacks, and in a condition of extreme weakness. On the day he arrived he was placed under observation, and the quinine administered to him by the Laboratory Assistant; this was on Tuesday the 7th September, and up to date (the 27th) he has had no return of the fever.

OCEAN FREIGHT AGREEMENT—TEA RATE FOR NOVEMBER 1920.—The tea rate for November 1920 will be £5-10-0.

APPENDIX.

Letter from the Chief Scientific Officer, Indian Tea Association, to the Indian Tea Association, London.

When recently I saw Mr. McMorran, he suggested to me that, in view of the probable decision of the Tea Association to advocate the restriction of

output from tea gardens, it might be a suitable opportunity for me to state my views upon the question. The financial and economic aspect of the subject is outside my province as scientific officer to discuss, but it is my business to point out to the tea industry the effect that such a policy is likely to have on the growth, health and development of the tea bush itself, and I take this opportunity to do so.

The restriction of output can be obtained in various ways, and I should like to draw attention to some methods, so as to more fully explain my views—

I. Part of the tea area need not be plucked at all throughout an entire season.

II. Finer leaf can be plucked with the normal methods.

III. The tea can be allowed a longer period of growth between pluckings and then only, *e.g.*, two leaves and a bud plucked, the remaining growth being allowed to remain on the bushes.

IV. Leaf can be plucked as in III, but the remaining growth can be broken back.

V. Tea bushes can be plucked closer, so as to restrict their growth.

VI. A greater amount of heavy pruning can be undertaken.

VII. Less manuring can be done.

I will now discuss, a little, each of the systems enumerated.—

I. This, at first sight appears to be a method which can only be described as wasteful, for the tea so treated will have to receive the normal amount of cultivation, and for this no return in tea manufactured will be obtained. Upon the other hand, however, is the very great benefit bushes so treated will obtain. The development of wood will be improved, and the vigour of the bush generally will be greatly increased, so that, in the following year, when the bush is pruned and plucked normally, it will be in a better condition. It is a method that should receive careful consideration when dealing with backward or weakly bushes.

II. For good tea this is probably the method that will commend itself to many, care being taken to leave an ample growth of new wood at the beginning of the season.

III. This method is in a modified form that recommended in No. 1. That is to say, the bush is encouraged to grow a large quantity of new wood. Bushes, towards the end of the season, will tend to become very high, and it may be impossible to pluck them. Care should be taken to allow the sides to grow up, and they should be plucked less severely than the centre. The sides should be allowed to reach the full height of the bush before being plucked. This would result in healthier bushes, and the method should prove useful for dealing with weakly areas. It would give improved quality in the tea.

IV. This I consider a wasteful method, since the new wood grown is removed too soon for the bush to fully benefit.

V. This is a method that could be countenanced only where ample manure is being used, and even then is not to be generally recommended. The result of such a form of plucking will be to weaken the bushes, and the development of good wood will be largely inhibited.

VI. The adoption of this method needs most careful consideration for, if areas are heavy pruned, they must receive treatment that shall aid in their healthy and vigorous development, and this, in the majority of cases, means expensive manuring. It is very seldom good policy to heavy prune poor tea, and not at the same time give it some stimulating treatment.

VII. This method at first sight might seem to indicate a very simple method for restricting outturn, but much would depend upon the treatment the tea has had in the past. Tea growing on poor land will quickly feel the effect of such treatment, but tea that has been properly manured in the past and is now in a healthy condition will not feel the lack of manuring to the same extent. Under this treatment, poor tea will suffer more than good tea. The method does, however, afford a means of materially reducing expenditure, for all tea that has received good treatment in the past might be allowed but little manure, and the use of nitrogenous manures, such as oil-cake and sulphate of ammonia, etc., might be almost discontinued. The use of phosphatic and potassic manures should not be restricted as a general rule, and it is of the utmost importance that green cropping should be maintained.

Many good areas of tea are in a condition to enable them to continue healthy development with the use of perhaps only one manure, phosphatic or potassic according to the soil requirements and green cropping. The choice of the green crop must be that best suited to the situation, but it is economical to use crops such as Boga Medeloa (Tephrosia candida) which remain for some time on an area. Such crops are of particular use in inhibiting the growth of undesirable jungle, such as sungrass, besides improving the soil tilth. Whilst strongly advocating at the present time a very restricted use of manures on good tea, it is impossible to do so for heavily pruned tea, or tea in poor condition, although, in the latter case, manuring could be somewhat restricted if plucking methods be adopted that provide for free and unrestricted growth of the bush, such as were mentioned under headings Nos. I and III. In dealing with weakly tea, the use of nitrogenous manures should not be altogether stopped.

CULTIVATION.—Although the following remarks do not necessarily concern the restriction of output, they deal more particularly with the restriction of expenditure.

On many gardens cultivation might be reduced, and more attention given to hoeing when land is in a suitable physical condition; if hoeing must be done when the soil is wet in order to keep jungle down, then only a very light hoe should be given Hoeing in wet weather, particularly on heavy soil, should never be done merely for the purpose of finding employment for labour. For this, forking round the bushes is a far better form of employment. The consideration that should determine the amount of cultivation required should be mainly the preservation of a good tilth in the soil. It is impossible to lay down any hard and fast rules as to the number of rounds of hoeing necessary. This will differ on individual gardens, according to the various kinds of soil. Also it is obvious that the same cultivation will not be necessary on the same garden each year, but will vary according to the weather conditions experienced. There are, however, certain points that need to be remembered:

(*a*) The deep hoe should be done at a time when the ground is soft, preferably about November. As it is often impossible to complete it quickly, the area that cannot be deep hoed before the ground becomes hard should receive a light hoe, and the deep hoe completed after the ground has become softened by the early spring rains.

(*b*) Several rounds of light hoeing should be done in the spring, but it is not necessary for these to be done at an interval of 10 days, which happens at times, in order that the full number of light hoes estimated for should be done.

(*c*) It is of importance that a round of light hoeing be done about the beginning of September.

PRUNING.— During recent years the pruning of bushes has been receiving very careful attention, with the result that with improved methods the cost also has greatly increased. Bushes have, however, shown a very decided response to such treatment, and are now in the condition of having good healthy clean wood. Without fear of serious damage to the bushes, such areas might be skiffed for one, or in some cases two years in succession, but, at the commencement of the season, plucking must be light, so that the growth of new wood be not restricted. Bushes might be pruned carefully in alternate years, and skiffed or left unpruned in other years.

I have taken a longer time than I intended in despatching this letter, but I wished to give the matter careful consideration, so that I might be able to clearly and definitely express my agreement with the policy of restricted output, if this be accompanied with methods that shall tend to improve the bushes. It gives an excellent and exceptional opportunity for renovating weakly tea, and ensuring the vigorous development of young tea, provided bushes are allowed to grow freely.

ANTI-HOOKWORM CAMPAIGN.

NEWS SLIP

(From the Publicity Bureau)

The following report on the anti-Hookworm operation for the month of September, 1920, has been received from Dr. G. P. Paul :—

The campaign on Jessie Estate, Manantoddy, continued until the 18th of September, when work was transferred to Daverashola Estate, Davera shola, Nilgiris, where the campaign was begun, on the 27th of September.

JESSIE ESTATE.—On this estate the work was conducted on the same principles as at Cherakara estate. The percentage of infection found among the coolies of Cherakara estate is used as a criterion of the degree of infection among coolies on estates having like conditions. This makes it unnecessary to conduct microscopical examinations of subsequent estates.

The coolies on Jessie estates were given three treatments at weekly intervals. The number of treatments given were as follows :—

F rst Treatments	...	396
Second Treatments	...	353
Third Treatments	...	289
Total Treatments	...	1,038

As on the other estates, the results of treatment were noticeable to both the staff and the coolies. Many of those treated stated that improvement was pronounced. It must be said that the coolies in general are very appreciative of the good done them. This is very important, as the good-will of the coolies at the beginning of our campaign will be most helpful. It may be said that, so far, we have not encountered the difficulties and complications that have presented themselves in some countries in which work was undertaken among the cooly labour force.

DEVARASOLA ESTATE —As stated, work was commenced on this estate on the 27th of September. From the conditions found on this estate, it is to be expected that a very satisfactory demonstration will be forthcoming. All concerned take a keen interest in the work. Coolies from some of the nearby estates are also coming here for treatment. Even some people from the bazaar have applied, of their own accord, for treatment. This is very encouraging.

TRADE IN INDIAN OIL-SEEDS.

The Report of the Indian Committee of the Imperial Institute on the trade of India in oil-seeds has been published by Mr. John Murray, price 6s. net. The volume emphasises in a striking way the vast importance of the Indian oil-seed industry. The total annual production of oil-seeds of all kinds in India is probably well over 5,000,000 tons in quantity and £50,000,000 in value; in normal times approximately one-third of the output is exported.

No other country produces in commercial quantities so great a variety of oil-seeds. Of the ten chief of these, viz, linseed, ground-nuts, cotton seed, rape seed, castor seed, sesame seed, copra, mowra seed, poppy seed and niger seed, India supplies no less than 30 per cent of the total amount entering commerce.

Before the war, about one-third of the total quantity of oil-seeds exported from India came to the United Kingdom, the chief kinds being cotton-seed, linseed and castor seed. Certain other oil-seeds, such as ground-nuts, sesame, copra and mowra, were shipped mainly to France, Germany, and Belgium.

Various suggestions are made by the Committee with a view to extending the trade in Indian oil-seeds with the United, Kingdom and developing the British oil-seed crushing industry.

It is considered that a free choice of the raw material produced within the Empire should be secured for this industry, if necessary by a system of rationing and licensing in the producing country. If further assistance is required, an import duty should be imposed on oils and fats of all kinds imported to the United Kingdom from foreign countries. The Committee consider that the latter method would be more satisfactory than a preferential export duty on Indian oil-seeds.

A memorandum on the effect of import tariffs on the oil-seed crushing industry, by Mr. J. W. Pearson, Chairman of the Seed Crushers' Association of the United Kingdom, is appended to the Report. The volume also contains a detailed account of the Indian trade in oil-seeds, prepared at the Imperial Institute for the Committee.

November, 1920.

RESTRICTION OF RUBBER OUT-PUT.

Advice has been received by last mail, from the Rubber Growers' Association, London, that the following producing companies in Southern India have signified their assent to the restrictions suggested by the Rubber Growers' Association :—

Central Travancore Rubber Company, Ltd.
Indian Peninsular Rubber & Tea Estates, Ltd.
Kanen Devan Hills Produce Company, Ltd.
Malayalam Rubber & Produce Company, Ltd.
Mooply Valley Rubber Company, Ltd.
Mysore Rubber & Coffee Plantations, Ltd.
Poonmudi Tea & Rubber Company, Ltd.
Pullangode Rubber Estate, Ltd.
Rani Travancore Rubber Company, Ltd.
Stagbrook Rubber & Tea Estates Company, Ltd.
Teekoy Rubber Estate, Ltd.
Travancore Tea Estates Company, Ltd.
Mundakayam Valley Rubber Company, Ltd.

At the meeting of the South Indian Branch of the Rubber Growers' Association, held at Cochin on the 5th October, it was decided to accept the reduction of crops for 1920 as proposed by the parent Association, but to make representations to London asking that special treatment as regards next tapping season be allowed estates in Southern India, owing to the short tapping season and smaller crops harvested here than in other countries. This representation was forwarded to England, and a cable has been received this week advising that, after careful consideration and in view of over seventy per cent of the producing area in South India having already assented to the orginal proposals of the Rubber Growers' Association, they regret they cannot see their way to make any special concess on to planters in Southern India,

(Signed) H. WADDINGTON,
Secretary,
R. G. A.—S. I. B.

MARKET REPORTS.

Messrs. Leslie and Anderson under date 28th October report :—

COFFEE —The market for mild coffees continues to drag, and prices where sales have taken place are lower. Owing to a loan arranged for Brazil by American Bankers, a recovery has taken place in exchange, and this has advanced the price of Brazilian Coffee about 5*s*. per cwt. The market considers East Indian Coffee relatively high, and we are soliciting offers on c. i. f. terms at about 100*s*. per cwt.

PEPPER.—No change to report in this market, which continues featureless.

TEA.—Good to fine teas are in demand, but prices for lower grades and common leaf are barely maintained.

RUBBER.—The factors which have been the cause of the decline in prices continue, and there does not appear to be any reason for an immediate upward tendency. Stocks have further increased by 2,077 tons, making a total of Plantation Rubber in London of 93,834 tons. Prices are 1*d*. lower for the week, Standard Crepe on the spot to-day being 1*s*.4½*d*, and Smoked Sheet 1*s*. 2½*d*

THE PRODUCTION AND CONSUMPTION OF RICE. IMPERIAL INSTITUTE REPORT.

In dealing with the problem of food supplies in the United Kingdom during the war, much attention was paid to the question of increasing the supplies of rice from British countries. In this connection the reports on the rice trade of India in relation to the rice resources of the world recently published by Mr. John Murray (6s. net), as the third volume of the reports of the Imperial Institute Indian Trade Enquiry, are a mine of valuable information. The Indian Trade Enquiry was conducted by Special Committees appointed by the Committee for India of the Imperial Institute, at the instance of the Secretary of State for India, to investigate the possibility of increasing the trade of the United Kingdom and other parts of the Empire in Indian raw materials. In the present volume, the results of the enquiries made by the Special Committee on food-grains, with regard to the Indian rice industry, are embodied in a report on the Trade in Indian Rice, to which are appended two further reports on the Production and Uses of Rice and the Utilisation of Burmese rice and its by-products, respectively. These latter reports comprise summaries of information prepared at the Imperial Institute for the Committee,

In the main report, reference is made to the two branches of the world's rice trade, viz , the far Eastern branch, requiring a cheap rice for feeding the native population ; and the Western branch, requiring large quantities of a medium quality rice and smaller quantities of a high quality product. The sources of supply of these markets are referred to, and sections are devoted to the following subjects : the world's trade in rice ; the rice trade of India with the British Empire and with the Continent ; imports, exports, and home consumption of rice in European countries and the United States ; the comparative cost of handling, milling and transporting rice in the United Kingdom and on the Continent. The Industrial uses of rice are also dealt with, and a series of statistical tables form an appendix to the report.

In 1913, India (chiefly Burma), Siam and Indo-China together contributed 94 per cent of the world's exported surplus of rice (including paddy, *i.e.*, unhusked rice), the amount of the Indian exports roughly equalling those from Indo-China and Siam combined, The total Indian export, (2,450,000 tons), is approximately equivalent to the total requirements of the British Empire from the three chief exporting countries. From the point of view of a self-supporting Empire, therefore, it would appear possible for India to become the sole source of supply of rice to the Empire.

Among the recommendations made by the Committee are suggestions for modifications in the headings of rice exports in the official Indian Trade Returns, with a view to tracing the development of the important rice milling industry of India. Since the report was made, alterations on the lines suggested have been made in the Indian Trade Returns. Certain changes in the headings of the rice exports in the Trade Returns of the United Kingdom are also suggested. The Committee also make recommendations for the regulation of foreign interests on the Indian rice trade, and the reconsideration of port charges and railway rates which, at present, constitute a severe handicap on the British rice trade in competition with the Continent.

COMPANY MEETING.

Harrisons and Crosfield.

At the twelfth ordinary General Meeting of Harrisons and Crosfield Ltd., the Chairman, Mr. Charles Heath Clark had some interesting remarks to offer on the position of the planting industry to-day.

Speaking with regard to the Rubber Industry, he said :—

I will now offer a few remarks upon the present position of the rubber and tea industries, in which this company is so largely interested. Since our last meeting the position of rubber has undergone a great change. At that time the demand was strong and the price was rising ; to-day the demand is weak and the price low, in London lower than ever before, while considerable stocks are accumulating in this country, in the East, and probably in America. This position naturally prompts the inquiry whether the actual consumption of rubber has declined during the present year. It is not possible to get reliable figures with regard to the actual consumption of rubber goods, but such evidence as is available points, I think, to an increase rather than to any decrease. The cause of the present situation is not that consumption has declined, but that the increase in the production of rubber is at present greater than the increase in consumption, with the result that at the end of this year there is likely to be an accumulation of from 35,000 to 40,000 tons over the stock

necessary for the working of the industry, with the possible tendency for this surplus to increase rather than diminish during 1921. The position is aggravated and rendered more critical by financial stringency, both here and in America, making it very difficult for those who might wish to do so to carry more stock than is necessary for the actual requirements of their business. Such a position was certainly not anticipated at the beginning of the year, when the large manufacturers were expecting a greatly increased demand, and were even apprehensive as to the sufficiency of the supply of raw rubber with which to meet it.

The Effect of War.

The causes which have prevented the materialisation of a great increase in the demand vary in different countries. Directly or indirectly they all arise as a result of the war, and from the economic disturbances accompanying the transition period through which we are passing. These causes have been well summarised in the recent circular of the Rubber Growers' Association, and there is therefore no need to refer to them further here. The financial conditions in the United States should become easier as the transport situation improves, and the strain which accompanies the financing of the harvest relaxes. The adverse European exchanges, being the result of inflated currency and adverse trade balances, will probably take a longer period before reaching anything approaching normal conditions. Under present conditions, the French manufacturer, buying rubber on the London market to-day, has to pay more than twice as many francs per lb., the Italian has to pay from three to four times as many lire, and the German more than twelve times as many marks as they would do if their exchanges were normal Neither France nor Italy will take as much as last year, while Russia, which the year before the war took from 10,000 to 15,000 tons, and Austria, which took 3,000 tons, are still entirely out of the market. Germany before the war took over 16,000 tons, but this year it is estimated she may take about half of that amount.

Little real improvement in the economic conditions of most of these countries can be looked for until their expenditure is reduced to correspond with their revenue and the continuous inflation of currency stopped. Their political and social conditions must be stabilised and their production largely increased, for which purpose credits must be provided as a necessary condition to the restoration of their export trade. I fear that no great expansion in the demand is to be looked for immediately. Meanwhile, the price of rubber has fallen to a figure at which many estates can only produce at a loss, and which is probably little, if at all, above the average cost to the whole plantation industry. If this situation is allowed to develop further without interference, it will be likely seriously to impair the productive efficiency of the industry for the future. This is being increasingly recognised by those connected with the plantation industry, and a favourable response to the proposals of the Rubber Growers' Association or the necessary restriction of output of both British and Dutch plantations, whether controlled in Europe or in the East, now appears to be assured.

The Tea Industry.

The position in regard to tea is of a character somewhat similar to that of rubber, with the possible exception that the need for some drastic action appears even more necessary. The marked rise in prices in the late summer of 1919 continued until the early part of November, by which time common Indian tea was selling in London public sale at 1s. 6¼d., but a reaction then

set in, as a result of abnormally heavy quantities coming from the East, owing to the provision of increased shipping facilities. This resulted in the market here being flooded, and prices began a decline, which has continued practically ever since. At the end of September, 1920, the stock shown by the Board of Trade returns to have been in bond in the United Kingdom was 220¾ million lbs. against 99¾ million lbs. at the corresponding date in 1913, and 143 millions lbs. in 1919. The decline in prices in London public sale has been extremely marked, the average price of all Indian tea having declined from 1*s* 9⅞*d* early in November, 1919, to 10½*d* at the close of September, 1920, whilst, over the same period, the price of common Indian tea declined from 1*s* 6½*d* to 4¼*d*. As against these selling prices, the probable average cost of Ceylon and Indian tea delivered in London is to-day not less than 1*s* 2*d* per lb. The prices at which lower grades are selling to-day are insufficient to cover even the out-of-pocket expenses incurred in shipping, landing, and selling. Again we are faced with a position in which, if the future producing capacity of the tea industry is to be preserved, some united action on the part of those interested has become absolutely essential.

It appears likely that proposals may be agreed to generally by which Indian and Ceylon producers will join together in reducing the output to the extent of, approximately, 20 per cent., and it is to be hoped that this will prove successful and cause prices to be maintained on a level which will at any rate cover the cost of production. If Russia and other Continental countries were in a position to resume their pre-war consumption of tea no surplus stocks would exist. This makes it the more important to take such steps as seem possible to preserve to-day the means of producing that which the world may again urgently need in the near future. It is satisfactory to note that in those countries where supplies have continued to be available consumption shows a very satisfactory tendency to increase. It is a reasonable assumption that the consumption of tea in this country has increased over 25 per cent. since 1913 ; and in India, where the consumption was estimated in 1913 at 20,000,000lb, it is now estimated to have reached 50,000,000 lb. per annum. When it is remembered that Russia alone in 1913 took no less than 191,000,000 lb. of tea, I am convinced that we can safely regard the present unsatisfactory conditions as resulting entirely from the disorganisation of international trade caused by the war, which conditions are destined to change into an era of prosperity when the full resumption of trading becomes possible.

Restriction of Output.

As regards the restriction of output of both rubber and tea, to which I have already referred, it cannot be too clearly understood that this is a temporary measure, and one not taken with a view of increasing profits, but in order that the industries in question may be saved from the continuance of losses, which threaten to cripple permanently, and possibly in many cases ruin, the productive possibilities of the future. Rigetly understood, the action proposed is intended to preserve and make it possible to increase the production of the future, and is not inconsistent, therefore, with the generally admitted theory that the way to economical recovery throughout the world lies in increased production.

The Financial Situation.

The position which has to be met does not arise through the needs of the world having been fully supplied, but is part of the general financial situation in which we find ourselves placed to-day, when, for lack of exchange, credits, and other financial facilities, one half of the world is unable to buy what the other half desires to sell. The great volume of international trade which has been built up so largely during the past half-century was depen-

dent upon general conditions of peace and goodwill, and these conditions, upon which it rested, have been suddenly changed and largely destroyed by the disastrous war through which we have passed. National interdependence remains, but the means of giving effect to this trading relationship between the countries of the world are at present lacking, and we are faced by the urgent need for mutual co-operation and the provision of credits necessary for international trading, as a preliminary to any real recovery from the wastage of the war. In the interests of the populations of the world generally, it is surely the most urgent duty of our own and other Governments to join in taking every measure calculated to promote the full resumption of international trade—(hear, hear)—and to secure the re-establishment of those conditions of peace and goodwill which are the necessary foundation of all sound finance and prosperous industry. (Cheers.)

The report was unanimously adopted.—*The Daily Telegraph.*

LETTERS TO THE EDITOR.

[*The Planters' Chronicle is not responsible for the opinions of its Correspondents.*]

Hookworm.

Dear Sir,—I am sorry I left out Travancore and the Kanen Devans, but the fact that they also can afford to keep up a Medical Organisation only reflects the more strongly on those who don't.

With regard to the "Preliminary Purge." Naturally there are other and more simple ways of treating Hookworm than that sketched in my paper. In Ceylon they omit the evening purge, and begin treatment with a cup of conjee in the morning, but in Rio de Janeiro they have simplified the treatment practically up to the penny in the slot stage, for there they manufacture tabloids of Beta-naphthel and Phenephthalein and whack out handfuls to all who ask.

The merits of any plan can only be judged by the results it gives. The Ceylon plan of combining Chenopodium with Croton oil and breaking the morning fast is said to be more acceptable to the patients, but, to compensate for the omission of the purge *before* treatment, a caution has to be issued restricting the diet for two or three days *after* treatment, all fruit and vegetables being barred and feed limited to rice and conjee.

The actual results of the treatment attained in Ceylon, too, are, I think, not as good as they might be.

At Matele, re-examination of treated coolies, one year after treatment showed that from 45 to 100 per cent of them were still infected. On 19 estates the rate of infection was from 91 to 100 per cent. On 6 estates between 81 and 90 per cent, on three estates between 71 and 80 per cent, and on five only was the rate less than 70 per cent.

These rates compare unfavourably with the returns published from other parts of the world, as for instance, Costa Rican Plantations with between 4 and 10 per cent after 18 months. The Seychelles, Nicaragua and Trinidad with 30 per cent after six months and more, and so on, and I trust they will shortly be beaten by South India also.

Yours faithfully,

20-11-20 F. MILTON.

NON-COOPERATION :—Your letter is not authenticated. (Ed).

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE

(BY CABLE.)

LONDON, 26TH NOVEMBER, 1920.

116s./- per cwt. Market quiet.

THE RESTRICTIONS.

There are three points which, at the moment, occur to the mind regarding the proposed curtailment of output in Tea and Rubber, they are, (1) the effect already felt of the rubber restrictions, (2) the effect of the restrictions on the *personnel* of Estates in South India, and (3) the actual position of the tea restriction proposals.

Before we proceed to deal in order with these points, we must refer to a letter appearing in this issue from Mr. Eaton, and reply briefly to two of his contentions. He states that the Home Agents of South India Estates who, he supposes, have mostly got interests in Malaya and Ceylon

while agreeing to restrictions unconditionally would probably not fully realise its unfairness to South India. In this we must differ from him and propound the view that South Indian Companies are largely controlled at home by men who have actual personal knowledge of conditions out here and, in any case, the peculiar conditions he mentions should be well enough known, since they have at all times formed the basis of our arguments on other points which have arisen in recent years, for instance, the allotment of shipping during the war. Latterly, in fact, it has become the habit of Company Chairmen to allude to these peculiarities in explanation of the various factors arising out of crops remaining unsold at the end of the financial year when this occurs in December, we will say, or even in March. Now we are to presume that the resolutions passed at Cochin, to which Mr. Eaton refers, did not end there. We can even assert that Managers in South India have repeatedly placed the necessity for preferential treatment before their Directors. It follows, then that the Directors at Home, and the Executive of the South Indian Association and Rubber Growers' Association have been fully posted as to the position, so that the evidence is strongly in favour of full consideration having been given to South India's views. Another point we must allude to is Mr. Eaton's assertion that restrictions in South India, where we have only 46,000 acres of Rubber, can make no difference to the market price of the commodity. This seems to be a common form of argument, and is, of course erroneous, because if the distinction were made between Malaya, Ceylon and South India, as Mr. Eaton suggests, there would be every reason to accept the attitude of many Estate owners who likewise say, "Why should I restrict, my crop will not affect the market one way or another." It is that very policy of "restrict if you like, I'm not going to," that is coming very near to wrecking the scheme in Malaya, and there seems to us no possible getting away from the fact that planters have got to take their medicine. It is far better for us to adopt the attitude of Mr. Murphy, whose letter to Mr. Richardson was read at the Cochin Meeting—"If Ceylon and the Straits will not agree to give us special treatment, ... it will be better to restrict our crops by 20 per cent., rather than have no restriction at all."

In Mail week, some of the home papers had a good deal to say of the rubber restrictions, and the opinion generally expressed may be gathered from a sentence in an article appearing in the "Financial Times." It is significant," says that paper, "that the proposal, merely by its sentimental effect, raised the price of rubber by nearly 1*d*. yesterday." It will be seen that we, personally, are inclined to mistrust these slight rises, as we have pointed out to "Three Nilgiri Planters" who are rather jubilant over the alleged effect of the mere threat of restriction in the case of Tea. But, if these advances are camouflages, the growers have it in their power to convert them into real advances, to make what is virtually a *sortie* develop into a serious engagement. Since writing the footnote to our correspondent's letter, we have received and now publish elsewhere in this issue more encouraging news of both markets. A little more patience, more "pulling together," and the battle is won.

In the meanwhile we have the disastrous effect of the restrictions on the "personnel" of Estates. Mr. T. C. Owen, at the Southern India Tea Estates meeting, announced the temporary throwing out of bearing of two estates, and there is no doubt that this policy will be followed by others. Another correspondent this week mentions the question of repatriation of labour from Ceylon, and this, we think, the most serious aspect of the posi-

tion. It is a thorny subject, which we are loath to handle until some clearer view can be obtained of the future, but in the meanwhile we must hold that the indiscriminate paying off of labour and the dismissal of Superintendents would be a fatal mistake. It is not going to be an easy matter to get them back again with recurring prosperity, and estates would do well to consider other measures before releasing what is, after all, their greatest asset, the goodwill of their staffs and labour, European and Indian.

The position regarding the tea restrictions remains somewhat vague, and we hear considerably less than we have recently done on the subject.

The Indian Tea Association proposals, dated 12th October, are :—

(1) To restrict 1920 crop to not more than 90% of the average crops produced in the years 1915 to 1919, or, as an alternative, that proprietors should cease plucking on the 15th November, 1920.

(2) To limit 1921 crops to not more than 80% of the average crops produced in the years 1915, to 1919 inclusive, provided that the proposed reduction for the year 1921 is supported by at least 85% of the industry.

The Committee I. T. A. reports that a very encouraging response has been received from members, most of whom had agreed to the proposals, provided equitable allowances were made for :—

(a) New gardens.

(b) Old gardens with large extensions.

(c) Gardens giving a small yield per acre.

Later, it was announced that support for the year 1920 proposal was practically unanimous, and that the proposals for 1921 were generally approved subject to the provisos named. Only 8 gardens refused to restrict.

90% of London controlled concerns agreed, and are said actually to have given effect to the scheme for 1920. The scheme for 1921 however, has not yet been agreed to by London, but restrictions on the lines laid down will probably be generally supported provided Ceylon comes into line. Two concerns in India withdrew their consent, for financial reasons, to the 1920 scheme, but the I. T. A., while the two withdrawals were regretted, did not consider that these need be regarded as a justification for deferring the immediate introduction of the restrictive measures appliable to 1920. Members of the I. T. A. have therefore been circularised that the proposals for 1920 are now in force, and should be strictly adhered to. Instructions for 1921 will be issued shortly.

The alternative proposal in para 1 above was left to the discretion of individual members.

This brings us to 9th November, and is the latest information we have.

In Ceylon, the proposal appears to be to restrict the 1920 crop by 20 per cent. and forms of assent have been drawn up by a Control Committee. We have no information of the measure of support accorded in Ceylon, but it is understood by the "Times of Ceylon" that, so far as the rupee companies are concerned, the control will be effective. The Ceylon Association in London seem to be extremely keen on restriction, and, according to Mr. Graeme Sinclair, are very anxious to learn that the Ceylon controlled estates were willing to come into line.

WYNAAD PLANTERS' ASSOCIATION.

PROCEEDINGS OF AN ORDINARY GENERAL MEETING, HELD AT MEPPADI CLUB, ON THE 24TH NOVEMBER, 1920, AT 2 P. M.

Present.—Messrs. T. P. Gauld, D. B. Darkin, E. E. Eyre, W Richardson, J. C. Blackham, and J. A, Gwynne, Honorary Secretary.

Visitors.—Messrs. F. E. Thomas, I. C. S., Collector of Malabar, and A. C. Woodhouse, Deputy Collector, Wynaad.

Mr. Gauld in the Chair.

The proceedings of last Meeting were confirmed.

U. P. A. S. I.—The meeting went into Committee to discuss the agenda of the General Committee Meeting to be held on the 6th proximo, when the delegate was instructed on the various subjects.

PUDUPADI HOTEL.—The application from the Butler, C. Chungaran, for an increase of pay was considered, and it was agreed to grant him Rs. 15 per month from this month. The matter of paying for the cost of minor repairs to the furniture was also agreed to.

Mr. Thomas addressed the Meeting informally on local administration, and it was agreed to put this subject on the agenda of the next Meeting for further consideration. Those present fully appreciated Mr. Thomas' address, and rendered a vote of thanks for his attendance.

With a vote of thanks to the Chair the meeting terminated.

(Signed) T. P. GAULD,
Chairman.

(Signed) J. A. GWYNNE,
Honorary Secretary.

THE RUBBER SLUMP.

CHECK THE FLOW OF FRESH SUPPLIES BEFORE YOU ARE SNOWED UNDER.

All must agree that the price of rubber has fallen to an appallingly low level, says *The Tropical Life*, where we are not unanimous is over possible remedies to enable the patient to recover its strength and "vim" again. When, however, one searches carefully for the cause of the debacle, instead of the triumph we all hoped for, the reason or reasons for the trouble must surely be beyond dispute.

Surely the main cause is due to greed—greed on the part of some producers short-sighted enough to refuse to throw in their lot with the common good, and to restrict their output for some months until it does not exceed the quantity required by the various consuming centres, in the same way that modern Greece was clever enough to restrict the output of currants on the market, and so save that industry from disaster. Then there is the greed of the buyers, mostly, if not we believe entirely, non-

British firms, who seem to have acted on the racing man's principle of tossing, by saying (to-day, but not when making their contracts), "Heads, I win if the boom comes; Tails, you will lose if it does'nt." The boom did not come, and the sellers are left with the rubber—but why —are none of these "honest buyers" good for the courts, or are there so many. . . . . well, never mind, that is for the rubber sellers to decide? "Leave Mincing Lane alone," one man told us when discussing the situation, it has got an attack of financial measles, contracted entirely from outside; no one can cure the trouble, but those on the spot; if the papers will only hold their tongues or speak nothing but the truth, the measles will soon pass. If they don't, the disease may spread, and if it does—well let's hope the papers get a taste of it."

One hears a good deal of a certain 100,000 tons of rubber purchased by New York, which seems quite unswallowable by anyone over there, whale-like as the American mouth appears to be. But apparently New York, wishing to have the mouth of a whale, forgot that it had also to put up with its comparatively small swallow, and hence the trouble. Those hundred thousand tons went into the mouth all right, but not through the swallow—and so, if anyone wants a little parcel, they will know where to go for it.

If America, however, cannot swallow what she has bitten off, what of Europe and ourselves? We certainly do not need the stuff; we have more of our own than we stand in need of, and plenty more where that came from. Again, our stock in London is put down at 37,000 tons, and that of Liverpool at 550 tons, but is this all? Would not those eastern folks, who will not join the ring and agree to restrict outputs, be wise to ascertain exactly what rubber is in the United Kingdom, and what contracts have still to be taken up and the rubber removed permanently from off the market? Would it not be wise of them to try seriously to realize the total quantity of undigested (and, *pro tem.*, perfectly undigestible) rubber that is about and must be reckoned with, before they insist on piling up further supplies and pulling down prices to a needless extent as is now being done? We have not reached finality yet with regard to "dud" buyers, we cannot yet see daylight ahead in the wood of troubles that outside markets have put us in, and since this is so, would it not be better to cry halt for a little, so as to give holders a chance to sell what they have when and where they can, without further flooding the market to the point of drowning everyone, or of breaking their backs with still heavier loads? You have in rubber the one crop on earth that need not be gathered, therefore why persist in gathering it? In persisting, you are not acting with as much thought as the natives in West Africa, who never send all their cocoa to market—they know it would not pay to do so. The trees probably benefit if the latex, i.e., the rubber, is left there. Will anyone on this earth benefit if it is extracted in the reckless, haphazard manner in which many seem to want to go on gathering it and sending it to market, whether wanted or not. We are quite sure that no one will benefit, but that everyone will suffer still further if such a policy continues. Why, therefore, harm yourselves (and others) when, with less trouble to mind and body, you can all work together and help the world, first to run off the accumulations we have got; and then, but not until then, can you all—*pro rata*, and still working together—turn the tap of supplies on once more and, in the end, benefit yourselves. Do otherwise, i.e., go on doing as some seem determined shall be done, and see if far more harm does not befall you in the end than discomfort for the time being. This discomfort can surely be borne, the disaster that unrestricted supplies are calling for is certain to be beyond everyone's control. Why therefore invite it to come?

THE CARBONATION OF BURNT LIME IN SOILS.

A paper on the above subject by Dr. Walter Hoge MacIntyre, of the University of Tennessee Agricultural Experiment Station, was published in Soil Science, May 1919. The general introduction to the paper reviews the question of liming in so striking a manner that its reproduction will doubtless prove interesting and profitable to readers of this Journal.

It is to be remembered that the subject dealt with in the investigation is not the general question of the advisability of applying lime to soils, but the conversion, after application to soils, of quicklime or slaked lime into carbonate of lime.

The practice of applying burnt lime to soils has long been followed as one of the fundamental agricultural arts. Particularly is this true in European countries. The scientific principles involved in the practice are, however, of but recent and partial development. From modern investigations, more particularly in the laboratory, it is now known that the benefits derived from the use of lime are due to its effects upon conditions physical, chemical and biological. The amelioration of unfavourable physical conditions; the eradication of various chemical soil constituents of an acid or toxic nature; the supplying, directly or indirectly, of plant food requirements and biological betterment have been urged as compelling independent or collective reasons for the application of lime to soils. Even in some newly cleared virgin soils liming is found to be shortly or immediately a profitable treatment; while, in the rejuvenation of worn-out and abandoned soils, liming is often found to be a prerequisite.

With the advent of improved appliances and machinery for tillage, and with the development of more intensive cultivation, the transported calcareous soils of more recent origin are now more rapidly depleted of their lime contents. Better aeration results in greater oxidation of soil organic matter, and it follows that the soil solution will become richer in carbon dioxide. Thus a stronger solvent will be furnished for the dissolving and leaching of mineral calcium carbonate, or for the hydrolysation and leaching of other forms of lime. Data upon this phase of the subject have been reported by Hall who states: "The Rothamsted soil, which at the beginning of the nineteenth century, must have contained something like a hundred tons of chalk per acre, has now less than fifty, and many other soils which started with a smaller initial stock are beginning to run dangerously short." Additional data concerning the conservation of lime have been reported also from various American agricultural stations, and by Gilchrist and others.

The development of modern crushing machinery, and the advent of byproduct limestone, have given a healthy stimulus to the use of lime in the form of ground rock. As a result, the term 'liming' has become a synonym for application of either burnt lime or ground limestone. In ancient times, the soft chalks of Europe were dug and made available by being brought to a state of fineness through exposure to the disruptive action of weathering.

The application of either burnt, air-slaked or water-slaked lime to soils is followed by the phenomena of absorption and carbonation, in sequence or in the reverse order. The existing soil moisture conditions, and the manner of applying or incorporating will be the deciding factors in determining the order of the changes. If the application is in excess of the

immediate absorption co-efficient, formation of calcium carbonate from the unabsorbed lime will ensue. The term 'immediate lime absorption co-efficient' is here used because of the fact that it has been shown, by the writer, that there occurs a progressive decomposition of calcium carbonate and absorption of calcium by soil, when soil and calcium carbonate continue in contact under most conditions. This slow, continued absorption, subsequent to the initial rapid absorption, may continue over a period of years. The phenomenon has also been demonstrated by Bouyoucos and Laudeman in a different manner over shorter periods. Therefore, an ultimate quantitative chemical comparison between the activities of burnt lime and natural lime rock in soils may well be based upon periodically determined occurrences of $CaCO_3$. Such a requirement necessitates a careful study of the factors influencing or controlling the carbonation of burnt lime in soils.

A lengthy study of the subject then follows, as the result of which it is stated that:—

The experiments as a whole point to certain definite facts which have practical application. Among them are the following:—

1. CaO and $Ca(OH)_2$ in 2 to 4 ton applications will revert to the carbonate more rapidly when left on the soil surface than when mixed with a dry mulch of the moist soil.

2. If an oxide or hydrate application is left on the soil surface for several days prior to inworking, the treatment is in effect an application of finely divided $Ca\ CO_3$.

3. Surface applications of oxide and hydrate will, for the most part, revert to the carbonate more rapidly during humid atmospheric conditions.

4. If the oxide or the hydrate is incorporated with the upper zone of the soil, prior to a more thorough dissemination throughout the soil, the concentration thus effected will bring about in the treated zone a temporary and partial sterilization which may have certain beneficial results.

5. The avidity or affinity of CaO is for moisture, and, when this is furnished by the aerial and soil atmosphere and soil moisture, there is no tendancy to effect any chemical disintegration of soil organic matter.

6. Neither CaO nor $Ca(OH)_2$ can be considered as chemically destructive of soil organic matter when used in the manner and in the amounts to be considered as practical applications.—*Agric. News, Vol.* XIX, *No. 465.*

THE MARKETS.

COFFEE.—A local circular says the market continues very dull indeed. Business in new crop for January/March delivery is being done on the Coast at Rs. 47/48. At home, we read, the quality offered in public sale is still deteriorating, and there has been practically no fine Coffee sold this week. Misleading articles have appeared in the Press to the effect that Coffee was lower in price, but it was not explained that this only referred to undesirable parcels or export descriptions.

Common coffee does not find buyers at any price, but whenever anything approaching fine is offered there is keen competition, and good prices are paid. The market is at the moment short of good Uganda, but there will be plenty offered during the next few weeks. Jamaica was sold in Liverpool, and both fine and finest fetched reasonable prices, but inferior lots failed to find buyers, and were withdrawn.

RUBBER.—"Macson" writes to the "India Rubber Journal" in mail week:—"We have unfortunately been brought right into those difficulties which one has felt eventually result from a market continually shaken by bad news. Mincing Lane has been severely shaken by the default of a member of the Rubber Trade Association of London, not a very large firm, but certainly one credited with shrewdness and balance of judgment. This has made the news all the more staggering. A certain amount of bitterness has been engendered by the news of the default not reaching all concerned at the same moment."

"This latter fact is the cause of the present still further fall in quotation values, as those who find rubber suddenly upon their hands don't like to feel that they are a day behind the fair."

"There is also reported a further failure in New York, not a big one, but still it is adding to a weight that is already heavy enough, and may become unbearable."

"The c. i. f. New York position, which has been in this page so often fixed upon as the danger spot, looks increasingly menacing, and London is now trying to stem the torrent of defaulting commitments."

Stocks in London on 4th November were reported to have further increased, and had reached 41,751 tons.

TEA.—The tone at the auctions this week was much better, with strong competition for good to fine teas, whilst lower grades and common leaf were more easily sold, at prices showing an advance on previous values.

NOTES ON THE TEA RESTRICTIONS.

Trade with Russia.

The London Correspondent of the "Madras Times" wires:—"I understand that the Soviet Representatives have everything all ready for starting trade directly permission is given. All arrangements have been made with British engineering firms for transport requirements. Tea stands first on the list of food articles wanted, and probably the first purchase will be ten million pounds. It was originally intended to buy all Chinese Tea, but since the slump in Indian and Ceylon tea this will be purchased also. It is possible that the proportion will be 55 per cent., the two latter, to 45 per cent the former. If the price of Indian tea rises, as is certain, then it is expected that the Bolshies, not wishing to help British Dependencies, will revert to Chinese exclusively. The pre-war consumption in Russia was 190 million pounds annually. There is only 19 million lbs. of Chinese tea, however now here."

Tea Prices and Profits.

To the Editor of "The Daily Telegraph."

Sir,—In the House of Commons, on the 22nd ultimo, in connection with the proposals of the Labour Minister regarding unemployment, Mr. Myers, Labour Member for Spen Valley, is reported to have made the following remarks:—

> "A report in the *Times* the other day stated that the rubber companies of the country proposed to restrict their output of rubber by 25 per cent. It was the definite policy of these companies, and also of tea companies, to keep down production, to limit supplies, to create unemployment, and to maintain prices and profits. That was organised "ca' canny" in the commercial world. The majority of the companies were registered in London, and the Directors were to be found in the House of Commons by the score."

The position of tea is briefly as follows. The stock of tea in the United Kingdom, as shown by the Board of Trade at the end of September, was 220¾ million pounds, against a normal stock of about 100 million pounds, and the bulk of the Indian crop for 1920 has not yet arrived. Owing to Russia being out of the market, the supplies of Indian and Ceylon tea usually sent to that country have been diverted to the home market, and prices have, as a result, fallen to such an extent that many teas are realizing prices which fall far short of the cost of production. It is obvious that tea companies cannot survive for long on such a basis. The proposed restriction of output is a measure taken, not with the idea of increasing profits, but to avoid loss and abandonment of estates—which is already taking place.

The public auction prices of eight months ago contrast with those of to-day as follows:—

Auction price (Pence) per lb.

Districts.	Feb. 27.	Oct. 22.	Fall in price.
Assam	19·35	13 69	5·66
Darjeeling	16·60	12·02	4·58
Dooars	18·96	8·84	10·12
Cachar and Sylhet ...	17·70	5·83	11·87
South India ...	17·75	7·72	10 03
Average...	18·32	10·62	7·70

Present prices do not meet the cost of production in any district, and the districts producing the lower-priced teas—representing about half the Indian crop—show a varying loss of from 6d. to 9d. per lb. To make good

this loss prices must be raised. That is the object of restriction. When it has been achieved, freer plucking will be resumed. It is an anomaly that, whilst growers are selling their produce at under 6d. per lb. and losing 6d. to 9d. per lb. in the process, Government takes 10 per lb. in duty.

Yours faithfully,

(Signed) W. H. PEASE, Secretary,

Indian Tea Association, (London,)

South Indian Association in London,

21, Mincing Lane, E.C., Nov. 2.

New Markets for Tea.

To

THE EDITOR OF *The Daily Telegraph.*

Sir,—The Indian and Ceylon Tea Associations (Associations of growers) have recently advised their members to limit the production of tea, with a view to readjust the excess of supplies and resultant low prices for common and medium qualities. The reasons for the present excess in supplies are that the Indian tea crop has increased in size yearly, chiefly as the outcome of intensive cultivation; also, that since 1914 a much larger proportion of the crop has come to this country, owing to the disability of Russia and foreign markets to buy it. The competition of Java tea has also to a considerable extent ousted British Grown Tea from those markets, other than the United Kingdom, which have been in a position to buy. Poor tea has been selling for weeks past at three pence and four pence per lb., which hardly covers the cost of chest and freight. What is wanted is more tea of better quality and much less inferior tea. Restriction of production is an evil to be avoided if possible. The banana trade was at one time faced with the same position as that in which tea and rubber now find themselves Growers banded together, and instead of producing less, they exploited fresh markets. Tea is a staple diet in Tibet, and enormous quantities of Chinese Tea are consumed there. Provided planters study the requirements of the Tibetan brick tea trade, and give the people the kind of tea they want, there lies an enormous outlet for the poorer grades of Indian tea at India's doors. The Tea Association of the United States of America have appealed to tea growers of all countries to assist in providing funds for a propaganda all over the States to make known and popularize black tea, which at present is only drunk there to the extent of 1 lb. per head per annum. Let some of the surplus tea be placed at the disposal of the Association, who have shown themselves to be genuinely in earnest in their endeavours to extend the consumption of black tea in one of the largest countries in the world. Restriction of production can only be a retrograde step while countries like the States are willing and anxious to promote the use of tea.

Yours, etc.

Watford. (Signed) R. P. ANDERSON.

RUBBER TRADE ASSOCIATION OF LONDON.

Monthly Statistics.

OCTOBER, 1920.

Movements of all kinds of Rubber to and from the United Kingdom as per BOARD OF TRADE RETURNS.

IMPORTS.

From	September.			9 Months ended Sept.		
	1920	1919	1913	1920	1919	1913
Straits Settlements and F. M. S. ...	5,445	3,549	2,593	43,066	41,511	18,128
Ceylon and British India ...	2,089	825	796	19,540	15,124	5,061
Dutch East Indies, &c.	617	1,028	276	8,737	8,702	1,214
Brazil and Peru	362	731	759	7,054	7,388	13,619
Other Countries	567	110	1,425	2,728	2,457	14,248
Total Tons ...	9,080	6,243	5,849	81,125	75,182	52,270

EXPORTS.

To	September.			9 Months ended Sept.		
	1920.	1919.	1913.	1920.	1919.	1913.
United States of America ...	122	1,303	1,579	24,751	10,479	12,798
Canada ...	305	532	31	2,932	1,459	348
France ...	591	477	351	10,846	8,276	3,542
Belgium ...	66	338	207	1,922	2,949	1,514
Italy ...	58	60	11	2,472	4,050	164
Spain ...	21	12	1	161	215	53
Germany, Austria, Hungary ...	332	771	631	3,385	1,376	7,736
Russia ...	11	...	256	40	68	4,761
Sweden, Norway and Denmark...	197	568	43	953	2,374	542
Other Countries in Europe ...	121	749	88	663	2,563	923
Other Extra European Countries.	82	...	56	969	313	562
Total Tons ...	1,906	4,810	3,254	49,094	34,122	32,943

LANDINGS, DELIVERIES and STOCKS in London and Liverpool as returned by the Warehouses and Wharves during the month of Sept.

		Landed for Sept.	Delivered for Sept.	Stocks 30th Sept. 1920.	1919.	1918.
LONDON ...	Plantation ...	7,468	2,605	34,991	25,300	13,136
	Other Grades ...	38	71	513	554	403
LIVERPOOL...	Plantation ...	877†	65†	2,170†	2,367†	2,879†
	Para & Peruvian	490	581	614	1,030	235
	Other Grades ...	...	...	443	428	562
Totals London & Liverpool ...		8,873	3,322	38,731	29,679	17,215

† Official Returns from the six recognised Public Warehouses.

Movements of all kinds of Rubber, excluding Gutta, Balata and Guayule, to and from the U. S. A., AS PER RETURNS OF THE UNITED STATES DEPARTMENT OF COMMERCE.

	July.			7 Months ended July.		
	1920.	1919.	1918.	1920.	1919.	1918.
IMPORTS ...	20,292	23,499	18,057	186,152	146,295	106,701
EXPORTS ...	126	193	157	1,506	1,127	2,490

RECEIPTS AT PARA.

	Aug.			July/Aug. (Two months).		
	1920	1919	1918	1920.	1919.	1918,
Rubber ...	1,469†	2,190	1,900	2,591†	3,390	2,340
Caucho ...	383†	960	700	843†	1,310	840
Total ...	1,852	3,150	2,600	3,434	4,700	3,180

† Estimate for September, Rubber 1800 tons.
Caucho 420 tons.

HYBRID COFFEE.

Several references have been made previously by Mr. Anstead, to the Hybrid coffee raised by Mr. Jackson in Coorg. I had an opportunity of seeing this hybrid in October, when he took me out to a clearing at Maleshwar where he has about twenty acres of three-year-old trees.

2. There is little doubt that he has a very good thing. It is true the soil is good, but I do not think that can account for the remarkable vigour shown by the plants. Their growth is exceptionally good for their age, and they are very uniform and of a good habit. A heavy crop was taken last year, 5 cwts. per acre at 2 years old, but in spite of this there was no dying back of primaries or other indication of any harm resulting.

3. I was particularly interested, from the plant-breeding point of view, to note the uniformity shown by the plants, both in the nursery and in the field. This is a very important point, and one in which some of the earlier hybrids on the market were distinctly lacking.

4. From the point of view of quality, the crop sent home last year was very favourably reported on. Messrs T. H. Allan & Co., reported that it sold readily when Coorgs in general were neglected, fetching 129 *sh.* for A size when a well known Coorg mark A size was offered at 116 *sh.* without raising a bid. The whole consignment of over 77 cwts. averaged 124 *sh.* 9*d.* per cwt.

5. Altogether this hybrid may be described as very vigorous, and a heavy cropper of good quality coffee. I am, personally, pleased to be able to say this, as my main work is plant-breeding, and it is always a satisfaction to see good results obtained in this line.

6. I have not the slightest doubt that extensive plant-breeding work on Coffee, as also in other planting crops, would be repaid most handsomely by the results obtained. "There are better fish in the sea than ever came out of it." This is no disparagement of Mr. Jackson's hybrid, but a suggestion that his success should be a stimulus to further work for still better results.

(Signed) F. R. PARNELL,
29-XI-20.

NOTES AND NEWS.

Ceylon Tea.

Figures of Ceylon Tea exported by rail *via* Talaimannar to the following stations in South India :—

	lbs.
Madras	433
Ayampett	966
Cannanore	4,115
Tanjore	650
Pattukottai	85
Total ...	6,249

These figures are taken from the "Ceylon Chamber of Commerce" Weekly Price Current, dated 8th November, 1920.

"As others see us."

(Scene:—A well-known Travancore Rubber Estate:—Trusted writer, complaining to European Assistant concerning the sins of a subordinate.)

T. W. (*Loq*):—"Sir—he is useless. Nothing does he do except eat, drink, sleep—sits all day in his house—just like one *Peria Dorai*."

Mr. Anstead.

We have received a lengthy and most interesting letter from Mr. Anstead, who wishes to be remembered to his many planting friends out here.

The 1919 Volume.

We are glad to announce that the bound volumes of the *Chronicle* for 1919 (Vol. XIV) are now ready. A series of unfortunate accidents has delayed publication till now, but we are sure this does not detract from the excellence of the volume. The greatly enlarged index will be found most useful, and the limited number of copies available will no doubt be quickly sold.

Returning Planters.

It does not seem long ago that we were saying good-bye to many well-known men in the planting world who were taking a well-earned rest after the strenuous years, 1914-1919.

The Hon. Mr. J. A. Richardson and Sir Fairless Barber have, of course, been back some time, and Mr. H. L. Pinches arrived last week. Mr. C. E. Abbott is on his way, and is due about the middle of December.

Freights.

With reference to recent articles on the subject of the difference in freight from Calcutta, Colombo and Malabar to London, we understand that the freight on Tea and Rubber from the East Coast to London has been reduced to 120*s*. per ton; less the usual rebate, as from November 1st, 1920.

Raw Rubber Market.

Since writing the brief market report which appears on another page of this issue, we have received another home Mail. "Macson" in the "India Rubber Journal" offers the following interesting report, dated 4th November:—

> "The next few days, if got over safely, will justify one in considering the worst is over—the November prompt, being the mid position of the last quarter, and also a heavy one for c.i.f. documents, will reveal any weakness should it be there.
>
> "The growers should not lay too much stress upon the price which rubber is at; the average of the year is good, and there are as good years in front as ever have been left behind.
>
> "The market has again shown a further fall in quotations, but this is not a bad symptom. Each new level of prices tempts in new money, and also increases the carrying power of that money. Dutch money has this week been so tempted, and has taken up quite a load. By this process we are quickly finding the grounding price which represents the new base upon which the whole superstructure of the market will stabilise itself.

"American news is not bad—the rot at least seems to have stopped. However, there is still a period of industrial readjustment to be got over. Markets are falling off, unemployment is increasing; rubber, cotton, woollen, motor and other trades are on short time. Will the Republican Party be wise enough to see that the trade policy of "mass" production which has been developed to its utmost, cannot successfully run in harness with a policy of restricted foreign relations. "Mass" relationship with the world is a more fitting counterpoise.

"A similar trade condition exists on our own side, but we are only pinched in our export trade by adverse exchanges."

Coffee.

A more confident feeling now exists, says *The Produce Markets Review*, and the present cold snap should have effect of increasing retail sales. Low grade Coffees have been enquired for, and parcels which failed to find buyers recently are now being taken at an advance of fully 5s. Fine and finest descriptions sold at dearer rates in public sale.

LONDON COFFEE RETURNS.

	Home Consumption.		Export.		Stock.	
	1920. Tons.	1919. Tons.	1920. Tons.	1919. Tons.	1920. Tons.	1919. Tons.
For week ended Oct. 30 ...	299	430	345	426	22,179	22,037
For 44 weeks ended Oct. 30.	14,494	15,457	11,469	17,437	...	...

Indian Tea.

40,243 packages have been offered. On Monday there was a decidedly better demand, and all Teas with good liquor or appearance fetched long prices. On Wednesday the market was still dearer for all grades, and advances of from 1*d*. to 3*d*. per lb. were by no means uncommon. The few good liquoring Darjeelings offered made full prices. For next week, 38,856 packages are in print, and a firm market is anticipated.

CEYLON TEA.—The auctions this week were on a smaller scale, and comprised only 19,876 packages. The better tone noticed last week was more pronounced, and bidding was keen for all descriptions. Lowest kinds showed an advance of about ½*d*. per lb., and fine to finest may be quoted 1*d*. to 3*d*. dearer.

JAVA AND SUMATRA TEA.—Only 628 packages were offered on Thursday, and these met a good demand.

Not Hevea Only.

With the very commendable preparation that is going forward for study of and experiment upon Hevea trees no one can quarrel. It is not only wise, but necessary. Nevertheless, would it not be the part of wisdom to bring both the *Castilloa* and the *Manihot* up to a greater productiveness also? In many instances individual trees have shown a surprising product. Furthermore, who knows that wound response cannot be brought about in these trees? If so, with their abundant flow of latex they might in time rival the Hevea. Then, too there is the immunity to disease that *Castilloa*, particularly, enjoys. The Hevea has proved such a wonder that the others are for the time being about forgotten which is a pity.—(*India Rubber World*).

A New Concentrated Tea Syrup.

A new concentrated liquid extract of tea is being introduced to the home, hotel, restaurant and soda fountain trade by the I. C. T. Product

Company, Indianapolis, through grocery, drug and candy jobbers. The product comes in the form of a syrup, in ten and fifteen ounce bottles, and is intended to be mixed with either hot or cold water, in the proportion of one tea spoonful of syrup to a cup of water. S. W. Dunn, President of the Company, states the extract is made from high grade teas, and is sold already sweetened with cane sugar.

Over Eighty Million Tires.

J. C. Frederick in the " Review of Reviews " forecasts the automobile business in a most interesting fashion. Indeed those tire men who fear immediate " saturation " may well read and take hope. Here are some of the figures. Present census of automobiles and trucks in the United States, 7,750 000. Saturation point based on Iowa *per capita* figures, 40,300,000, or on one-fourth of that, 10,200,000 plus 7,750,000, which equals 17,950,000. This, expressed is tire terms is 71,800,000 tires and tubes. Europe's need, Mr. Frederick puts at 31.300,000, cars. He points out also that the American car is popular, and that the supply does not equal the demand, Say, Europe can use 10,000.000 tires on the above basis, it would look as if, some time within the next few years, 81,800,000 new tires will be built in American factories, and then there are the replacements. Not really a bad outlook.

LETTERS TO THE EDITOR.

[*The Planters' Chronicle is not responsible for the opinions of its Correspondents.*]

Co-operative Stores.

Sir,—We hope it will not be long before we hear that there is something doing *re.* the above.

Even if it is not considered feasible to start on the large scale proposed, for goodness sake let us start on something smaller sharp, or else start at least a Buying Agency on Indent.

The Nilgiri Association has had preferential discounts with certain firms for some time, a start at least in co-operation, and if these were generally allowed and reasonable, it might suit us as well as starting Stores of our own, but uncompromising replies from certain vested interests make it absolutely essential that we " get together " if we are to obtain all supplies at a fair price.

There is, of course, the difficulty, at present, of a fluctuating Exchange ; but be this what it may, it is generally the middleman who wins and the planter who loses ; in fact the fluctuating Exchange is in many cases used by the middleman for gross profiteering.

The initiation of Co-operative buying would, we hope, automatically lead to a form of co-operative selling ; a fact we mention with some nervousness, as some planters are so imbued with the spirit of individualism that the idea of co-operative *selling* might scare them off altogether, but one has only to look at profits made out of the planter by some Firms dealing in Planting Produce to realize the amount that might be legitimately going into Estate Account if we only got together. Also there would be no extra work involved, as the Co-operative business would of course pay a trained manager.

We are in many cases selling at a loss. The consumer is still paying a high price for his tea. Who gets the difference? The Middleman, of course.

With Co-operative Stores started, or even a Buying Agency in being, we could arrange for sale of Tea and Coffee, and is it too fantastic a thought to imagine "UPASI" Brands in, say, 10 years time rivalling in sales, and certainly surpassing in quality many of the largely advertised present day 'marks'? There is not the slightest doubt, but that the extension of our Organization for Buying and Selling would pay a very handsome dividend on our "Upasi" subscriptions, so much so that no Estate in South India could afford to remain outside, thus rendering the control that is so essential for Protection easier of achievement.

It is noticeable that, within a few days of the announcement that the restriction of the rubber output had been agreed on, the price of the raw material advanced 8 cents; and, within a few days of the question asked in Parliament about the proposed restriction of tea output, the average price of good tea advanced 2*d*. to 3*d*. a lb., at the London sales. So much effect is produced on the middlemen, even by the threat of co-operation by any of the planting interests.

Yours faithfully,
(Signed) THREE NILGIRI PLANTERS.

(*Note by Editor—P. C.*).—We can all sympathise with the writers of this letter, but with regard to the last paragraph we would issue a warning. It is quite on the cards that buyers at home have got "the wind up" over the restrictions, and the slight advance in Tea prices may be only a blind to persuade growers to give up the idea. Rubber prices have again slumped, and it looks like a straight fight between grower and middleman. The prices of Tea and of Rubber articles, to the final consumer, have not decreased, in spite of the enormous stocks, and our only remedy is to discontinue the absurd policy of selling at a loss in favour of one of not selling at all. It is a question of which can hold out the longest, the growers or the holders of stocks in England.

Labour.

Sir,—I was not much interested in "Madura's" letters on bonus scheme for coolies, etc., till, my refusal to continue raising rates and pay, which are high in this district, caused my Office Writer to say "But, Sir, "Madura" is in favour of giving all the coolies another anna a day bonus!"

I have, therefore, one question to ask "Madura." Where is the money to come from? Ceylon has increased its expenses to an extent which has made tea a proposition which will not pay at all. We can, of course, follow suit, but will it be any advantage to the cooly to get a temporary rise of pay and shortly after be thrown out of employment altogether?

This is exactly what has happened in England by the fixing of a minimum wage, and the payment of higher wages and grain compensation, etc., has nearly put Ceylon Estates out of business.

I do not think we need worry much about labour; for I think it is a moderate estimate that 100,000 coolies from Ceylon and other estates will be thrown out of employment, largely on account of the system which "Madura" advocates, *i.e.*, the raising (in the past) of their pay and allowances to an uneconomical figure.

Ceylon was, of course, encouraged to do so by a (temporary) boom. "Madura" is apparently stimulated by a slump!

Yours faithfully,
"ASTONISHED."

Restriction of Rubber Output.

Sir,—With reference to the recent meeting of the West Coast Planters' Association, and to the question of Restriction of Output, I would like to give my reasons for the resolution which I put to the meeting, and which was only lost on an acreage count. I wish to do so as, otherwise, my attitude in the matter might be wrongly judged. There was considerable discussion at the meeting, but since this was in Committee it has not been printed in the Minutes.

There were three resolutions passed at the R. G. A. meeting, held in Cochin on the 5th October, and it would appear that the second one was only an amendment to, or practically a contradiction of the first. I agree with the first, but not with the second. The acreage of rubber in India is roughly 46,000, whilst in Malaya and Ceylon it is about 2,000,000, so it was obvious that, whatever S. India did, it would not make the slightest difference to the market price of rubber, therefore the only reason S. India should restrict would be for the sake of co-operation and unity—a very big reason I admit, but not one to make us unduly harm our own interests without doing any appreciable good to those of others.

Burmah, with 64,000 acres, will have nothing to do with restriction, because of her short tapping season and low yields, and we are in the same position. An average Malay or Ceylon Estate produces, say, 500 lbs. per acre at 40 cents per lb. Restricting the crop 25% to 375 lbs. per acre, but not restricting expenditure at all, the cost per lb. would be raised to 53 cents. It is costing S. India as much as this to produce at 250 lbs. per acre, so that Malay and Ceylon, with restriction, would be making their profits on 125 lbs. more per acre than South India without restriction. S. India's restriction will amount to about 100 tons monthly, and what good will be done, or what difference will this make to the market price of rubber when it is remembered that the total estimated monthly reduction is 9,000 to 10,000 tons ?!

It may be said that it is invidious to make distinctions, and I would absolutely agree were it a question of distinctions between Estate and Estate, or any trivial quarreling over details, but a question like this; between widely separated countries cannot fairly be put in the same category.

I think it would have been better if we had not been in such a hurry to display our virtue; if we had cabled home lengthily for *immediate* preferential treatment and provisionally agreed to only, say, 10% restriction, or to a basis of a maximum production of so many lbs. per acre, say 225. I am aware that we might have been over-ridden by our home agents who, I suppose, have mostly got interests in Malay and Ceylon; who, while agreeing to restriction unconditionally, would probably not fully realise its unfairness to South India, but our opinion must be worth something as men on the spot, and anyhow we would have shown our disinclination to be sacrificed for the sake of our bigger brothers in distress, especially when that sacrifice was going to do them no good, and ourselves a lot of harm. Nobody knows whether in six months' time the rubber market may not have recovered and restriction gone by the board, (though admittedly this is unlikely) and in that event we would have suffered out of all proportion to other rubber producing countries, especially as we produce about 40% of our crops in the last three months of the season. We could hardly then look to them for consolation.

Yours faithfully,
(Signed) S. P. EATON.

P. S.—I am restricting here, and above are only my private opinions.
(Initialled) S. P. E.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED,

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" COFFEE

(BY CABLE.)

LONDON, DATED 3RD DECEMBER, 1920.

116s./- per cwt. Market dull.

THE UNITED PLANTERS' ASSOCIATION OF SOUTHERN INDIA.

Proceedings of a meeting of the General Committee, U. P. A. S. I., held at Coimbatore, on Monday, December 6th, 1920, at 10-30 a.m.

Present:—

Mr. C. R. T. Corgreve...Chairman.
Mr. F. R. Parnell ...Deputy Director of Agriculture, Planting Districts.
Mr. E. Ballard ...Entomologist to Government of Madras.
Mr. H. Waddington ...Secretary.
Mr. C. H. Brock ...Asst., U. P. A. S. I.
Mr. E. Vincent ... "

and

Planters' Associations.	Nominated Representatives.
Anamalais	...Mr. J. Carless.
Bababudins	...Mr. N. G. B. Kirwan.
Central Travancore	...Messrs. D. McArthur and E. C. Sylvester.
Coorg	...Mr. P. G. Tipping.
Kanan Devans	...Mr. H. L. Pinches.
Mundakayam	...Messrs. J. R. Vincent and G. McPherson.
Nilgiris	...Messrs. A. S. Dandison and J. B. Vernede.
Nilgiri-Wynaad	...Mr. J. S. Nicolls.
North Mysore	...Mr. P. G. Tipping (Substitute).
Shevaroys	...Messrs. H. S. Dickins and V. L. Travers-Drapes.
South Travancore	...Mr. E. Lord.
West Coast	...Messrs. A. H. Mead and A. C. Morrell.
Wynaad	...Mr. E. Eyre.

NOTICE.—The Secretary read the notice convening the meeting,

MINUTES OF LAST MEETING.—The Proceedings of the last meeting were read and confirmed.

PROGRESS REPORT OF THE EXECUTIVE COMMITTEE.—The Secretary read the Progress Report of the Executive Committee as follows :—

No Progress Report has been issued since the Annual Meeting held at Bangalore in August, as little of the business discussed there has reached such a stage of conclusion as made it worth while reporting pending further communications expected.

COCHIN HARBOUR.—In accordance with the resolution passed at the Annual Meeting, I tendered my resignation of my seat on the Committee in favour of the Hon'ble Mr. J. A. Richardson, but the President pointed out that, unless the report we then submitted was returned by Government for further reference, it was unlikely that the Committee would be called together again, and asked me not to press the matter. I have, accordingly, not done so.

The Report was unanimously adopted, and the proposals put forward allow for development not only in British Cochin, but also at Vendurthi, within the limits of the Cochin State. The cost of the scheme is estimated at 203½ lakhs of rupees, and it is expected that the first jetties may be ready in three years. From newspaper reports, it appears a dredger has been secured, and work of opening the channel through the bar may very shortly be commenced. The management of the Harbour will be under a Trust Committee, which we recommended should be of twelve members, 1/3rd representatives of the Cochin State, and 1/3rd nominated by the Government of Madras, and 1/3rd elected by the Cochin Chamber of Commerce. It is for the U. P. A. S. I. to consider whether we should not ask that a nominee of the Association be included on the Committee to represent particularly the interests of the Producer and Consumer.

RAILWAYS.—A resolution was, at the instance of the Coorg Planters' Association carried that, we should once more press on Government the necessity of connecting Coorg with the railway systems in Mysore. At that time, the supporters of the resolution promised to instruct me as to details of the line, where it was proposed it should be made, and on return to Coimbatore I wrote for that information, but have received no reply.

The resolution asking Government to make arrangements for the electrification of the Nilgiri Railway immediately power is available, was communicated to the Secretary for Railways.

The Director of Industries, in a private conversation, asked my opinion regarding the establishment of an aerial ropeway from Kotagiri to the plains, and the matter has been referred to the Nilgiri Association.

RAILWAYS. MUNNAR-COCHIN.—The Railway Board have stated that, owing to lack of funds it will not be possible to carry out the reconnaisance survey this season.

TENANTS IMPROVEMENT ACT.—Before the resolution passed at the annual meeting could be communicated to Government, it was announced that the introduction of the Malabar Tenants Improvement Act into the Nilgiri-Wynaad had been placed on the agenda of the next meeting of the Legislative Council, and the matter is, therefore, left in the hands of the Planting Member.

INDIAN TEA CESS.—The resolution passed at the annual meeting was forwarded to the Indian Tea Cess Committee, and nothing from the agenda of the Madras Chamber of Commerce that the matter had been referred to them, we wrote asking their support, which they at once did recommending that the increase proposed should be made. The Government of India had no objection to the proposed increase, provided there was practical unanimity in its favour among tea planters ; the proposal was accordingly published in the "Gazette of India," and criticism invited before 1st November. The amendment of the Act will probably be passed at the next meeting of the Legislative Council of India.

In this connection, the Central Travancore Planters' Association passed a resolution asking that a cable be sent by the U. P. A. S. I. to the S. I. A. London, suggesting that the Indian Tea Cess be increased at once to one pie per pound, and that the funds so raised be used to buy old stocks of tea in London, and that they be sold for the manufacture of Caffeine. Any increase in the Tea Cess, until Act IX of 1903 has been amended by the Government of India, can only be voluntary, and the Executive Committee were not in favour of sending such a cable, but the resolution of the Central Travancore Association has been sent to the South Indian Association in London, asking their opinion as to whether the suggestion as to buying up old tea for manufacture into Caffeine is a practicable idea which would have result of removing a large quantity of lower grade teas from the market.

IMPORT DUTY ON TEA.—To the resolution agreeing to the increase in the Tea Cess, a stipulation was added that the Indian Tea Association be requested to press Government to impose a duty of 4 annas on teas imported into India. When addressing the Indian Tea Cess Committee, I accordingly asked them, in conjunction with the Indian Tea Association, to represent to Government that, in view of the increased tax tea producers proposed to impose on themselves, it was reasonable that we should be protected against foreign countries reaping the benefit arising from our expenditure. They replied pointing out that, being a body appointed by Government for a specific purpose, it would be *ultra vires* for them to deal with general questions of taxation, and that this was a question for the Indian Tea Association and similar Associations.

The Indian Tea Association in replying pointed out that, this question had been examined some years ago by them, in consultation with us, and finally abandoned. Subsequently, the import duty was raised from 5% to 7%, and the tariff valuation upon which it was calculated fixed at 12 annas for black and 14 annas for green teas. There is, therefore, a fairly substantial duty levied on all imports of tea into India, and hence the Committee of the I. T. A. were averse to putting forward the suggestion made for

imposing a specific duty of 4 annas per pound. They further supplied figures to show that the heavy imports during 1918 were due to war conditions, and that, since then, importation has materially fallen off, over four million pounds less being imported during 1919 as compared with 1918.

EXPORT DUTY ON TEA.—We wrote the Government of India through the Government of Madras, asking for the removalo f the Export Duty of Re. 1/8- per 100 lbs., but have received no reply. At the same time we wrote the Indian Tea Association asking them to move in the matter. This they have done, and have sent us a copy of their letter to the Secretary, Government of India, Department of Commerce, urging that the duty should be removed.

COFFEE PRICES.—In accordance with resolution passed, arrangements were made for the weekly cable from London as to the current price of "A" coffee being published in the "Chronicle" commencing with October.

RUBBER GOODS FACTORY.—We wrote the Director of Industries, Madras, as regards the willingness of Government to assist in the establishment of a factory in Southern India for the manufacture of rubber goods, to which he replied asking us to indicate in what manner Government could assist us further at present. This, I referred to the mover of the resolution, who advises me that he does not see how they can assist any further at the moment. There the matter rests.

STATISTICS.—The resolution asking Government to take steps to make the furnishing of correct statistics relating to planting products compulsory was forwarded through the Government of Madras, and their attention was called to the necessity of reliable information on such matters when instructing representatives for India to the International Labour Conference to be held in future.

Next year, the General Census of India will be taken on the 18th March, and planters will, no doubt, assist as on previous occasions, with the record of persons on their estates on that day. We have been asked to help now in the compiling of an Industrial Census, and unless planters cordially assist us, this will, if we are to obtain information from the whole industry, give us much trouble.

MYCOLOGISTS.—The Director of Agriculture being at our Annual Meeting, we took up with him the subject of the resolution passed relating to the appointment of a Mycologist for the Mundakayam Station, before leaving Bangalore. Immediately afterwards, the Government of Madras forwarded us the application of a Mycologist who seemed most suitable for the appointment, and at a meeting of the South Indian Branch of the Rubber Growers' Association, held at Cochin on the 5th October, it was resolved to obtain his services, if possible, and we ought, any day, to receive information as to whether he has accepted the billet.

The matter of the appointment of a General Mycologist is under correspondence with Mr. G. A. D. Stuart, who has resumed his work as Director of Agriculture, Madras, the Secretary met him on the 7th November. The question has now arisen as to where this General Mycologist should have his Head Quarters. The Director of Agriculture is anxious that it should be at some place within reasonable distance of the Agricultural College and Research Institute at Coimbatore, but it must be in such a situation that he will be in direct touch with Coffee and Tea (to which his investigations will be principally directed) growing under ordinary estate conditions. Coonoor or the Anamalais would seem to be indicated.

ENTOMOLOGICAL RESEARCH.—The Government of India have under contemplation, the formation of an all India Entomological service with head-quarters at Coimbatore, and considerable increase in the strength of the service throughout India. This would be quite distinct from the Agricultural College and Research Institute now at Coimbatore, which is a Madras Province Institute. They desire our views, and how far the proposals are likely to meet the requirements of the Association for entomological work.

INDIAN AGRICULTURAL SOCIETY—All District Associations were addressed, and their attention drawn to Dewan Bahadur Swamikannu Pillay's address on this matter at the Annual Meeting.

R. G. A. BOTANICAL RESEARCH.—The appeal made for additional funds by the Rubber Growers' Association, for greater support of the imperial College of Science and Technology was circulated to all Associations.

MYCOLOGIST STATION AT MUNDAKAYAM.—A detailed estimate has been furnished by the Mundakayam Planters' Association for completing the Station and furnishing the Bungalow and Laboratory.

ARTICLES OF ASSOCIATION.—Signed Articles were received from all Associations with the exception of Mundakayam, and forwarded to our Solicitors. There is a small point in respect to names of promoters to be cleared up, when the matter of reg stration should be ready to be completed.

RULES OF THE ASSOCIATION.—A Meeting of the General Committee on the 6th December will consider these.

INTER-DISTRICT LABOUR RULES.—The West Coast Planters' Association have intimated their adherence to the rules.

THE PLANTING MEMBER.—The new system of election of the Planting Member, which was introduced under the Reform Scheme, gave some additional work in preparation of Electoral Rolls, these when completed, included 349 names, or about three-fourths of the planting community. The Hon'ble Mr. J. A. Richardson was nominated, and returned unopposed.

AUXILIARY FORCE ACT.—This Bill was passed by the Indian Legislative Council on the 16th September, but copies are not yet available in Coimbatore. On the 24th November, we received a letter from Government advising that a meeting would be held at Fort St. George on the afternoon of the 26th to settle details of the Advisory Committees created under the Act. Notice was too short to allow of the Secretary attending, and arrangements were made that we should be represented. I wrote advising that there be four such Committees in those Districts in which planters are concerned, with centres at Calicut, Coimbatore, Quilon and Mercara. We have now been advised that it was decided to constitute three Advisory Committees:—

(1) One for Ganjam, Vizagapatam, Godavari, Kistna, Guntur and Nellore, with Head Quarters at Waltair.

(2) One for Nilgiris, South Kanara, Malabar, Coimbatore, Travancore and Cochin, with Head Quarters at Ootacamund.

(3) One for Madras City, and all Districts not included under 1 and 2.

We are now invited to nominate two members to the Advisory Committee for the Nilgiris and West Coast area.

LAND FOR EX-OFFICERS.—The resolution passed at the Annual Meeting was communicated to the Government of Madras, and we wrote the Ceylon Planters' Association and Incorporated Society of Planters, Malaya, asking what was being done in this direction in Ceylon and Malaya. The Ceylon Planters' Association advised us a scheme had been prepared by the Committee of Comrades of the Great War, and referred our letter to them. The Chairman of the Comrades of the Great War advised us that, a scheme had been drawn up and would shortly be submitted to Government. Roughly, the proposals were that about ten acres of land per man be granted, such land to be worked as a Company, and a gratuity based on length of service and pre-war salary be given. Individual grants of land will not be considered. No reply has yet come to hand from Malaya.

ROADS.—The resolutions pressing upon Government the urgency of putting main roads to and from Planting Districts in order to carry motor transport, and necessity of immediate repair to the Periakulam-Kuruvanuth Road, and advisability of placing its upkeep in future in the hands of the P. W. D. were forwarded to Government.

The matter of the extension of the Yercaud-Vaniah Road from Glazebrook to the head of the Manjavadi Ghat was taken up with the Collector of Salem.

FACTORY ACT AND PLANTERS' CO-OPERATIVE SOCIETY.—There is nothing new to communicate.

MADRAS PLANTERS LABOUR ACT.—Government intend to refer the question of amending this Act to a committee, consisting of two Government Officials, three other non-official gentlemen and three representatives of the Planting Community, they have invited the Secretary to serve on the Committee, thus meeting the wish expressed at the annual meeting that Mr. Waddington should be included.

ELECTRICITY ACT.—We received from Mr. P. S. Jackson a copy of the Proceedings of the Meeting, held at Madras on the 30th and 31st August last, together with a most useful criticism of the revised rules proposed under the Act. Our interests could not have been in better hands.

MEDICAL AID.—An Anti Hook Worm Campaign, under the direction of Dr. George P. Paul of the Rockfeller Foundation, has been carried out during recent months on the "Jessie" and "Cherakara" Estates at Manantoddy, North Wynaad, and on the "Daverashola" Estate at Nellakota in the Nilgiri-Wynaad, particulars as to which have been published in the *Planters' Chronicle*. It is to be hoped that interest in this matter will not be allowed to wane, and that means to carry on the work will be found, although Dr. Paul is unable to give his personal superintendence longer.

BENEVOLENT FUND.—The matter of amending the Rules in consonance with the views expressed at the annual meeting is down for decision of the General Committee at the meeting held on the 6th.

RAILWAY RATES ON TEA.—At the Annual Meeting it was decided that we should address the Board of the S. I. Railway, both in India and at Home, with regard to the increase in rates charged on Tea carried over their line, which was stated to be some 133 per cent over and above rates charged for last twenty years.

SHIPPING RATES ON WEST COAST.—The assistance of Messrs. Pierce Leslie and Company and Messrs. Aspinwall and Company was invoked to obtain a reduction in the high rates charged, namely, 150s. per 50 c ft. on Tea, and Rubber, and we have received advice that the rate was reduced from the 1st November to 120s per shipping ton, less the usual rebate.

SOUTH INDIAN PLANTERS' WAR FUND.—We have asked Mr. McFarlan, the Honorary Secretary in London to wind up the Fund there, and to remit the balance cash in hand to credit of the Fund here. On receipt of this, steps will be taken to close the Fund and capitalize any balance for the benefit of the S. I. P. Benevolent Fund as resolved at the Annual Meeting.

SETTLEMENT OF RYOTS FROM INDIA IN CEYLON.—The question as to whether the concessions offered to emigrants from India by the Government of Ceylon was likely to induce a large number to emigrate, whether it was desirable for the Madras Government to assist such emigration and whether such emigration was likely to affect, prejudicially, the supply of labour required for India, was referred to us, to which we replied that the conditions offered appeared sufficiently attractive to induce ryots to accept them, that we did not think the Madras Government should assist such emigration as any effort they at present make to settle surplus ryots should be turned to increasing the food supply in their own Presidency, but that such emigration as proposed was unlikely to prejudicially affect the supply of labour.

INCOME-TAX ON TEA ESTATES.—We have taken steps to have the matter of the liability of Tea Estates to payment of Income-Tax, referred to the High Court of Madras.

TEA BOYCOTT.—Our attention was drawn to the Boycott now being carried out against Tea sales in Bombay, under instigation of Mr. Gandhi and the U. P. A S I., may wish to consider defensive measures against this.

RESTRICTION OF OUTPUT OF RUBBER.—The proposals made by the Rubber Growers' Association have been accepted by over 70 per cent of the Producers in Southern India.

RESTRICTION OF OUTPUT OF TEA.—The position appears still to be somewhat vague. As far as India is concerned, the Indian Tea Association proposals dated 12th October are:—

(1) To restrict 1920 crop to not more than 90% of the average crops produced in the years 1915 to 1919 or, as an alternative, that proprietors should cease plucking on the 15th November 1920.

(2) To limit 1921 crops to not more than 80% of the average crops produced in the years 1915 to 1919 inclusive provided that the proposed reduction for the year 1921 is supported by at least 85% of the industry.

RESPONSE.—The Committee I. T. A. reports that a very encouraging response has been received from members most of whom had agreed to the proposals provided equitable allowances were made for:—

(a) New gardens.

(b) Old gardens with large extensions.

(c) Gardens giving a small yield per acre.

Later it was announced that support for the year 1920 proposal was practically unanimous and that the proposals for 1921 were generally approved subject to the provisos named. Only 8 gardens refused to restrict.

Ninety per cent. of London controlled concerns agreed and are said actually to have given effect to the scheme for 1920. The scheme for 1921 however, has not yet been agreed to by London, but restrictions on the lines laid down will probably be generally supported provided Ceylon comes into line. Two concerns in India withdrew their consent, for financial reasons, to the 1920 scheme, but the I. T. A., while the two withdrawals were regretted, did not consider that these need be regarded as a justification for deferring the immediate introduction of the restrictive measures applicable to 1920. Members of the I. T. A., have therefore been circularised that the proposals for 1920 are now in force and should be strictly adhered to. Instructions for 1921 will be issued shortly. The alternative proposal in para 1 above was left to the discretion of individual members. This brings us to 9th November and is the latest information we have.

In Ceylon the proposal appears to be to restrict the 1920 crop by 20 per cent. and forms of assent have been drawn up by a Control Committee. We have no information of the measure of support accorded in Ceylon, but it is understood by the *Times of Ceylon*, that, so far as the rupee companies are concerned, the control will be effective. The Ceylon Association in London seem to be extremely keen on restriction and, according to Mr Graeme Sinclair, are very anxious to learn that the Ceylon-controlled Estates were willing to come into line.

Although largely advocated in Southern India we have no reliable figures by which to judge to what extent restriction of crops is being carried out.

THE CHAIRMAN.—Before proceeding with this meeting, you all know I think, that we have lately suffered a great loss in the death of Mr. Mahon. For one year he was our Chairman and showed great interest in the Association. I am sure you will agree with me that we should ask the Secretary to write to Mrs. Mahon, expressing our sympathy with her in her great loss. The vote of condolence was passed, all present standing.

THE PROGRESS REPORT.—The Chairman.—With regard to the Progress Report I think it would be best if each heading was mentioned, and if anybody has any thing to say, he can then speak on that particular subject.

COCHIN HARBOUR—Mr. Mead.—With regard to the suggestion, made by the Secretary, I think we should act on that suggestion and ask that out of the 4 members allotted to the Cochin Chamber of Commerce, one should represent the planting Industry.

The Secretary.—Would it not be better to get Government to nominate our member ?

Mr. Mead. —Agreed and proposed the following resolution, which was seconded by Mr. Pinches and carried :—

> "That the U. P. A. S. I. should approach the Government of Madras to allow the Association to nominate one member to represent the planting Industries on the Harbour Board."

RAILWAYS—Mr. Pinches.—According to the Progress Report, the Government state that they have no funds available for the reconnaissance survey this year. I think we should ask Government to reconsider their decision, and propose the following resolution :—

> " That in view of the extreme importance of an outlet to the West Coast from the Anamalais, Government be asked to reconsider their decision to shelve the making of a reconnaissance survey of the proposed Cochin-Munnar Railway."

Seconded by Mr. Carless and carried.

Mr. Tipping.—With regard to the proposed Coorg Railway, I am sorry the Hon. Secretary has not given the information. I wrote to him, but I have not received a reply. I could have given you the information myself but wanted to be more accurate. I would like the matter pressed and will refer it again to my Hon. Secretary and see that the information is supplied.

INDIAN TEA CESS—Mr. Sylvester.—I should like to ask the Indian Tea Cess Committee that South India be reserved for the sale of South Indian teas. I have just obtained samples from Madura of teas sold there, that are being brought down from Calcutta and are being sold, probably with the help of the Indian Tea Cess Committee, with the result that the sale of our own teas has been stopped entirely. Shall I be in order in bringing in a resolution ?

THE SECRETARY.—In bringing forward any resolution of this nature, before you put up a proposition, will you consider the working up of a scheme by which you can supply the tea wanted by the Indian Tea Cess Committee. They begged us to supply tea you will remember in 1918, and Mr. Richardson suggested a scheme of pooling your dust and fannings, but nobody took it up. The Indian Tea Cess Committee denied that they ever bought foreign teas.

Mr. McArthur.—The point about it is that the Indian Tea Cess Committee, in their packets, maintain an average sample of 32 packets to the lb. and they object to dust being sold, as it is liable to adulteration. Another thing ; I understood that once a market was established, the Indian Tea Cess people would not interfere. In Madura we had a market established, and they have interfered. They object to people buying our teas at 7 annas or 7¼ annas and selling them in the bazaar for eight annas, saying that it is too high a figure. We have a letter from Mr. Newby objecting to the price of 8 annas being charged, when the same quality of tea could be got from Calcutta for 6 annas. But it is not the same quality of tea.

Mr. Pinches.—The Indian Tea Cess Committee do not actually buy tea, do they ?

Mr. McArthur.—The Indian Tea Cess Committee may not buy, but they have a control and are crabbing our market.

Mr. Nicolls.—The great point is that as long as a market is established, there should be no interference.

Mr. Pinches—I should ask them to explain.

Mr. Sylvester proposed :—" That the member of the Indian Tea Cess Committee be asked to take up the matter of the Indian Tea Cess Commissioner's letter to Mr. Sylvester regarding sale of Peermade teas in Madura".

Seconded by Mr. Nicolls, and carried.

At the request of Mr. Carless the Chairman read out the paragraph in the Progress Report regarding Caffeine.

In answer to Mr. Dandison, the Secretary said that no reply had yet been received from the S. I. A , in London.

IMPORT DUTY ON TEA.—Mr. Sylvester asked if the U. P. A. S. I. considered a convincing case had not been made in favour of this duty?

CHAIRMAN.—I do not think you have any chance of Government bringing in a four annas duty as it would interfere with their fiscal policy. They have already increased the duty considerably ; I think it now works out about 14 per cent. and I, personally, do not think Government will alter their policy over such a small matter.

EXPORT DUTY ON TEA—At the request of Mr. Pinches, the paragraph in the Progress Report relating to this subject, was read.

Mr. Pinches.—What was the date of our letter to the Madras Government ?

The Secretary.—15th October 1920, I think. Since then Ceylon, who had urged the removal of this duty before our meeting, and were turned down, have again taken up the question with the Ceylon Government.

Mr. Pinches.—I think we have a good case and might again write, urging the Government to give consideration to the matter.

Mr. Nicolls.—I wish to support that and would go further. We are not asking this in order to increase profits but to save the extinction of an industry. I would suggest that a deputation be sent to the Viceroy by the U. P. A. S. I., Ceylon and Northern India might join us. While most of us have been suffering great losses, they are taxing us at the rate of Rs. 15 per acre, which is no inconsiderable sum and amounts to more than the pay of the Superintendent.

The Secretary read a letter written in support of the removal of this duty from the Indian Tea Association to the Government of India, Department of Commerce, dated 9th November 1920.

Mr. Nicolls, proposed :—

"That this Association address the Indian Tea Association, regarding the advisability of sending a joint deputation to the Viceroy pressing for the immediate removal of the Export duty on Tea."

Seconded by Mr. Pinches and carried.

HEADQUARTERS OF THE GENERAL MYCOLOGIST—Mr. Carless.—I should like to support the suggestion that the General Mycologist be stationed in the Anamalais.

The Chairman invited Mr. Parnell to give the meeting his views.

Mr. Parnell said it was obvious that the Mycologists should be stationed, if possible, at a place where the principal crops on which he would have to work were to be found growing under normal conditions. On the other hand, it was essential that he should be stationed within easy reach of Coimbatore, where he would have access to the library, and would be able to discuss his work with other Mycologists. As to whether the Anamalais or Coonoor should be selected, he favoured Coonoor as being more get-at-able from Coimbatore, and both the crops (tea and coffee) were to be found there. He (Mr Parnel) however, thought the meeting would know better regarding the crops and would be able to say if, coffee for instance, in the Nilgiris, could be said to be growing under normal conditions. It would not be of any use putting the man near to poor coffee. Certainly it would be a mistake to station the Mycologist in a place where he has to go long distances for the purpose of experiments. He ought to be able to go outside his laboratory and find the crop ready to hand, where it could be continually watched.

Mr. Eyre.—My Association suggests Gudalur as being more central for both coffee and tea.

THE CHAIRMAN.—There is no coffee near at hand at Coonoor and the Mycologist should live on an Estate.

Mr. Parnell.—I do not mean by Coonoor "in the station", but somewhere near, but he must be close to his own plots. You should know if the coffee grown there is under normal conditions, it is no good for instance, going to a place where coffee does not grow properly.

Mr. Dandison.—The only place I can think of is Glenmore and I am not sure if there is a bungalow there. I personally, would prefer him to be at Coonoor but I quite realise that the Anamalais would be better.

Mr J. R. Vincent.—The Anamalais have the advantage of having cardamoms which also get diseases and need the attention of a Mycologist.

Mr. Carless.—I want to know if Mycology and Entomology can be combined?

The Chairman.—That question is not before the meeting. The question is where the General Mycologist should have his headquarters.

On the matter being put to the vote, 10 voted for the Anamalais and three for Coonoor. The following resolution was then proposed from the Chair and carried:—

"That the Secretary be requested to advise the Director of Agriculture that this Association considers the Anamalais to be the most suitable headquarters for the General Mycologist".

THE IMPERIAL ENTOMOLOGICAL SERVICE—The Chairman invited Mr. Ballard to give the meeting his views, and asked the Secretary to read the letter he had received from the Director of Agriculture on this subject.

Mr. Ballard explained the proposals of Government pointing out that in theory, though not in practice, the Imperial Government lent the services of one Entomologist to each province. In practice, only two such men had been appointed, and their time was fully taken up with work on pests affecting ryot's crops, such as paddy, cotton, etc. They were thus unable to help planters very much, and he had himself only been able to visit one estate, which he did with the Deputy Director of Agriculture, Planting Districts. Even now he did not know, except in a general way, the planters' chief troubles. Under the proposed scheme, said Mr. Ballard, you will be able to have an Entomologist for your work either to deal with one particular insect, or else one working in very much the same way as the General Mycologist to give advice and work out schemes dealing with insect pests in general. You might even have two, one on general work and another to work on some specific problem. For example, in Assam there was an Entomologist working on the Mosquito Blight of tea for the last six years. I might add, as in the case of the General Mycologist, the Entomologist should have his headquarters where the crops are grown.

Mr. J. R. Vincent.—Can Mr. Ballard say if the Entomologist would be for Planting Industries alone or for general work?

Mr. Ballard.—For Planting Industries alone.

THE CHAIRMAN Proposed.—"That this Association welcomes the proposal to establish an Imperial Entomological Service, with headquarters at Coimbatore, as likely to very materially help Planters".

The subject was closed with a vote of thanks to Mr. Ballard for having kindly attended the meeting and giving it the benefit of his views.

THE RUBBER MYCOLOGIST—Mr. Pinches.—As you know, I have only just returned from Home and I would like to have details of the estimates, submitted by the Mundakayam Planters' Association, for completing the Station, and the amount actually spent so far, so that I can summarise the position.

The Secretary.—We have spent on the Buildings	Rs.	44,528
The Estimate for the Culture House is	Rs.	3,000
The Estimate for the Laboratory Fittings is	Rs.	5,000
The Estimate now before us for completing the Station (including furniture) is	Rs.	9,512
That will make	Rs.	62,040

I feel quite sure we shall exceed the estimate for the Culture House if it is to have a glass roof.

Mr. Pinches.—How much did we contemplate spending ?

Mr. Vincent.—Rs. 44,000 odd.

Mr. Pinches.—We have heard that we contemplated spending Rs. 44,000 and are going to spend Rs. 62,000. I do think in view of this, we ought to economise all we can, and vote a lump sum to finish the thing as best as we can.

I see the item of furniture is Rs.4,371. I do not see why we should spend so much when the most we allow in the High Range to furnish a Manager's bungalow is Rs. 1,200. My point is that having already exceeded the estimate, so much, we should now fix our liabilities, and vote a lump sum to finish the Station.

Mr. Vincent.—At Bangalore a Committee was appointed to go into the question of further expenditure. This Committee decided that a sum of approximately Rs. 8,000 or 9,000 was necessary to complete the building and put everything in order. I was asked to get my Association to furnish a detailed estimate, for this amount. I went into the question, in detail, with the Chairman and the Secretary of our Association, and we actually measured up the work to be done, and framed our estimates according to the rates ruling in the district at the time. We then found that this was slightly above the figure sanctioned. I do not think you can go back on that sum now. The various amounts, asked for are all quite necessary, except perhaps for furniture.

The estimate for furniture may appear to be high, but there again the Committee sanctioned something between rupees three and five thousand and I have made the estimate accordingly. Having been given these lines to go on if the estimates exceed the amount actually allowed us, and the Executive Committee find that it is out of order, it is up to them to say so. I have no objection for this to be discussed at this Meeting.

With the exception of the item for furniture, I would ask you to accept the estimate, and I should be glad if you would refrain from cutting down the other items, which are absolutely necessary, for example, the clearing of jungle round the bungalows of the Indian Assistants, filling up holes made by excavating a large amount of earth round the bungalow, etc., You have to make the surrounding of the bungalow decent There appears to be nothing over and above what is actually required. With regard to furniture, I understand that furniture is not allowed to Government servants, but it was offered in this case as an extra inducement to get a man to come. There is not so much objection therefore in cutting down the items for furniture.

Mr. Nicolls.—I was on the Committee and I suggested that you should call for tenders.

Mr. Vincent.—I did call for tenders and I got three quotations from Messrs. Harrisons Crosfields, Wrenn Bennett & Co., and from Oakes & Co., and I have got it as cheap as possible.

Mr. Pinches.—Is this Rs. 1,500 necessary for cart road ?

Mr. J. R. Vincent.—The cart road has been built and it now requires metelling. The upkeep will be small once it is metalled. We

should make this part of the capital cost and once it is done there will be less recurring cost every year. Another point is that the estimated cost of furniture includes the laboratory Office Furniture.

THE CHAIRMAN.—You have heard Mr . Vincent's explanation, I certainly think we should come to a final decision now.

Mr. Vincent appealed to the meeting not to cut down the items for completion of the buildings and clearing up the compound, which were all absolutely necessary, but agreed to referring back to his Association the matter of furniture, which could be reduced, thus bringing the total cost of completion down to the maximum sanctioned.

Mr. Pinches said he was prepared to accept Mr. Vincent's figures with the exception of the item of furniture, which he thought should not exceed Rs. 2,000 and wanted the assurance of Mr. Vincent that the amount would not be exceeded.

Mr. Vincent having given this assurance, Mr. Pinches proposed :—

"That the meeting sanctions the final detailed estimate for the Mundakayam Mycologist's station with the exception of the item of Rs. 4,371 for furniture, which item shall not exceed Rs. 2,500. That Mr. Vincent's assurance that this estimate will not be exceeded be recorded".

Seconded by Mr. Mead and carried.

ARTICLES OF ASSOCIATION.—This matter was left in the hands of the Secretary.

Land for Ex-Officers.—Mr. Morrell asked if Native States had been approached regarding this ?

The Secretary —No, and it is no use doing so unless you can go to them with a workable scheme for their consideration.

Planters' Labour Act.—The Chairman said that he, together with Mr. Nicolls and the Secretary had been invited by the Government to sit on the Committee which would consider the amendment of this Act, thus meeting the wishes of the U. P. A. S. I.

ELECTRICITY ACT.—The Chairman proposed a vote of thanks to Mr. Jackson for so ably looking after our interests in connection with the Electricity Act, which was carried.

RAILWAY RATES ON TEA—Mr. Pinches and Mr. Vernede, both informed the meeting that these had certainly been increased and the Secretary was instructed to push forward the resolution passed at Bangalore on the subject.

SHIPPING FREIGHTS.—The Chairman proposed a vote of thanks to Messrs. Aspinwall & Co , and Messrs. Pierce Leslie & Co , for having helped in getting Shipping Frieghts on Tea and Rubber reduced. Carried.

INCOME-TAX ON TEA ESTATES.—Mr. Nicolls.—I have received a form to fill in, which I propose going into with Mr. Waddington, before sending it on to our lawyers.

AUXILIARY FORCE ACT.—The Secretary read the report of the meeting in Madras, and was asked to find out what Section 4 was; the matter could then be left in the hands of the Executive Committee.

Mr. Dickins asked if the U.P A.S I. would try and get Salem included in the Nilgiris area, as it was in the past.

This concluded the discussion on the Progress Report, and the meeting adjourned for lunch at 1 P.M.

On resumption at 2 P. M., the question was taken up of increasing the subscription.

The Chairman said:—As you know at the Annual General Meeting, our Budget showed an excess of expenditure over receipts of something over half a lakh, and it is now proposed to raise the subscription on all products by two annas per acre.

Mr. J. R. Vincent.—Mr. Chairman, my Association protests against the increase in cess and that protest I have been instructed to communicate, which I do with a few remarks. With regard to the Executive Committee's report, I expected them to deal with the question of finance. The finance of the U. P. A. S. I. is in a very bad position. According to the report, you have a deficit of Rs. 59,000, and we have got to consider, if we agree to this extra two annas cess, how much this is going to bring in.

The Secretary.—It would bring in about Rs 20,000.

Mr. Vincent.—Then, we have still a balance deficit of Rs. 39 000. We have the alternative of reducing the expenditure and doing away with the deficit that way. Is it not possible for the Executive Committee to consider that question; if we know that we cannot raise the cess more than two annas, and that two annas has a time limit on it, and if we have to keep on raising it every year, it seems to me that there is something wrong somewhere. We are spending more than our income, and before we agree to this extra two annas cess, I think we ought to consider first, whether we cannot cut our coat according to our cloth. Rubber is in a forlorn state, Tea is ditto, and Coffee is also in the same state, and prospects do not seem bright, certainly for another year. If this increase of two annas is going to give us only Rs 20,000, we want to find another 39,000. Is it any use getting this extra two annas then? Can we not make some alteration in the expenditure? Have the Executive Committee considered the question of the future policy of the U. P. A. S. I. Is the U.P.A.S I going to look forward at all, and see what is going to happen in two years time? The cost of running the U. P. A. S. I. is getting dearer and dearer every year. My Association has not got any definite proposals to put forward, but it recommends that the expenditure be cut down. If this two annas extra cess has to be agreed to, is it not time that we should change the Articles of Association by convening an Extraordinary meeting, or try and reduce our expenditure? It is only a suggestion thrown out. Another question is involved and that is is this two annas cess to be used entirely for labour? I understand that it is owing to the requirements of labour that this two annas cess is required. (Cries of No)

The expenditure on the Labour Department is so much more than what was expected and we have to find out how this expenditure has so outrun the estimates.

The Secretary.—Ever since I have ever had anything to do with the Association we have never exceeded our estimates.

Mr. Vincent —Will this two annas cess meet the case? It will not. It will still leave us a deficit of Rs.39,000. This two annas will keep us going, say, until the end of March and on the first April we shall have to vote another two annas per acre per annum. Is it not up to us,

now, to consider that question and call for an extraordinary meeting to alter the Articles of Association? We must settle it one way or the other. Either by reducing our expenditure or by increasing our cess. Another question. We will probably find that the employees of the U. P. A. S. I. will require extra pay owing to high cost of living. Mercantile and Planting firms have had to increase their wages. We are working without a margin at present. We ought to settle our future policy.

Chairman.—It seems to me that all we are allowed to ask for under the Articles of Association is two annas, and we are doing the best we can. I do not think Mr. Vincent's argument touches our point to-day. The question of subsequent expenditure next year is a matter which may come up before the general committee next year and that will be the time to threshout the question, in the meanwhile are we going to vote this extra two annas cess or not?

Mr. Dickins said that he was against the increase in cess if cases continued of the crimping of labour by the Anamalais from the Shevaroys. He specially mentioned a letter he had received from Mr. Hight regarding 39 coolies who had thus been crimped. If the Shevaroys agreed to the increase it would be on the understanding than the District would not be invaded in this way and that they would get some protection from the Labour Department of the U P. A. S I. After all they used to pay Rs 2 per acre to the Labour Department and the proposed subscription was still considerably less than this.

Mr. Nicolls.—In going through the accounts of 1919-1920 I think we can anticipate that in future our expenditure will not be so high as last year, when we had to pay considerable sums of money for the Mundakayam Mycologist's Station, and that will not be a recurring expenditure. As far as my Association is concerned we are quite prepared to agree to the increase, in fact I regret that it is impossible to raise the cess by more than two annas. At the same time we hope the Executive Committee will in every way try in the present crisis to meet the situation as far as they can by retrenchment. We must anticipate an extension of our propaganda, in the future, for which our present income is insufficient and in future under more favourable conditions we may have to pay up Rs. 2.

Mr. Carless.—As representing the Anamalais I would like to have details of Mr. Hight's letter.

Mr. Dickins handed the letter to Mr. Carless.

Mr. Pinches.—Am I right in understanding that at the last annual meeting the Budget was passed and that the Executive Committee's business is to simply carry out the orders given at the annual meeting. It seems to me, that Mr. Vincent's remarks are in the nature of a vote of censure on the Executive Committee.

Mr. Vincent. Yes, that is what they were intended to be.

Mr. Pinches.—Mr. Vincent now asks us to cut down expenditure, in fact, his actual words were "to cut our coat according to our cloth." This I consider most unfair in view of what we have heard of the expenditure on the Mycologist's Station. The Budget was passed at the annual meeting and we are simply here to carry it out. I take exception to Mr. Vincent's remarks.

Mr. Mead.—The Executive Committee is not empowered to alter the Budget laid before the General Meeting.

Mr. Vincent.—My point was this. The finances of the U.P.A.S.I. do not seem to be in a very healthy state. The Executive Committee are in the position of the Directors of a Company. The Directors are supposed to look after the finances of the Company, that is to say, they outline the Policy and it seems to me in making this report the Executive Committee have not considered what the position will be after levying this extra two-anna cess. We shall have to go on increasing the cess each year, and we ought not to consider the advisability of calling an extraordinary meeting to alter the Articles of Association.

The Chairman.—At the annual meeting it was decided to raise the cess by two annas. You had a chance then of criticising the Budget and bringing forward any resolution. The Executive Committee is simply there to carry out the orders of the General Meeting. I do not see how you have any right to argue or criticise their action at this meeting.

I now propose—"That the rates of subscription on all products be increased by two annas per acre".

Carried *Nem Con.*

COLLECTION OF SUBSCRIPTIONS.—The Secretary read a letter from the Nilgiris Planters' Association and there was some discussion on this point. On being put to the vote, the suggestion that subscriptions be collected by Head Office was not accepted.

AMENDMENT OF RULES—Rule VI. *Re.* Notice of Meetings.—The Secretary read and explained his notes on the Agenda regarding this, and after some discussion it was proposed from the Chair "That the alteration to Rule VI proposed by the Annual General Meeting be adopted".

The rule will now read:—

"No subject other than those on the published Agenda shall be discussed except with the consent of the meeting unless thirty days notice in the case of an ordinary meeting and fourteen days notice in the case of a General Committee meeting stating objects and reasons have been given to the Secretary".

The next Rule on which there was discussion was the suggested new Rule that the Budget should be submitted to the General Committee by the 31st March each year

Mr. Vincent.—I think we might accept the Secretary's suggestion to alter the date to 1st March each year.

Proposed from the Chair:—

"That the following additional Rule recommended by the General Meeting be adopted That the Budget for the ensuing year shall be submitted to the General Committee before the first March each year". Carried.

DELEGATE'S EXPENSES.—It was decided that if an Association sends an Executive Committee member as its delegate, the Association in question, shall pay his expenses.

AGREEMENT WITH THE CEYLON LABOUR COMMISSION.— The Secretary read the three clauses agreed upon with the C. L. C, and said the Executive Committee had no power to enter into this agreement without the confirmation of the General Committee. It was proposed from the Chair:

"That the agreement as regards Maistries and Kanganies made between the Executive Committee and the Ceylon Labour Commissioner be confirmed." Carried.

The wording to the clauses was slightly altered on the suggestion of the Association Lawyers.

SOUTH INDIAN PLANTERS' BENEVOLENT FUND.—The revised rules drafted by the Secretary were circulated and discussion invited.

Rule XVII.—It was decided to delete the limit of Rs 500 in this rule and to make it applicable only to dependents of Europeans other than members.

Mr. McArthur (Rule VI Clause b).—Who is the beneficiary under this rule?

The Secretary explained that the rule was there to enable estates to subscribe. No actual benefit was offerred.

Mr. Morrell.—Rule XVI. Suggested that the amount be increased to Rs. 200. Lost.

Mr. Eyre.—Rule VI (a). Instead of a minimum subscription of Rs. 10 why not put one day's pay per mensem.? Lost.

The Secretary asked for a ruling on the position of employees of the U. P. A. S. I. and it was decided to add to Rule IX the words:—

"Application for assistance for employees of the U. P. A. S. I. shall be made direct to the Executive Committee by the Chairman of the U. P. A. S. I."

There being no more discussion the Chairman proposed:—

"That the revised rules of the U. P. A. S. I. Benevolent Fund, as amended by this Meeting be adopted" and said, I hope by the time the next annual General Meeting takes place, our Secretary will be able to state that 100 per cent of the Planters belonging to the U P A S.I. now subscribe to the Benevolent Fund.

The Resolution was carried unanimously.

INTER DISTRICT SPORTS.—This matter was informally discussed with the consent of the meeting and a committee consisting of Messrs. Edwin Vincent, A. C. Morrell, and G. McPherson were asked to go into the matter and draw up a scheme.

With a vote of thanks to the Chair the meeting then terminated.

NILGIRI PLANTERS' ASSOCIATION.

At a Quarterly General Meeting of the above Association, held at the Collector's Office, on Thursday the 11th November, 1920, the following members were present :—

Messrs. A. K. Weld Downing (in the Chair), Sir Robert Stanes, A. S. Dandison, E. Sydenham Clarke, E. G. Windle, Norman Grey, L. F. Lake, J. B. Leslie Rogers, J. B. Vernede, G. F. Weston Elwes, S. C. O'Reilly, J. Harding Pascoe, St. John Ives, M. J. L. Hayne, and A. N. Hearn (Honorary Secretary.)

Visitors—Messrs. H. C. Price and A. A. Brown.

I. Notice calling the meeting was read.

II. Proceedings of the meeting of 29th July were confirmed.

Delegates' Report.

III. The following report from the Delegates who attended the U. P A. S. I. meeting was read, and recorded with a vote of thanks :—

"As instructed by you we attended the 27th Annual General Meeting, of the U. P. A. S. I., held at Bangalore, from 23rd to 26th August, 1920. The proceedings have already been fully reported in the press ; but as it has been impossible this year for every member to receive a copy of the Book of Proceedings, our report is rather more lengthy than usual.

The U. P. A. S. I. acreage is now some 176,000 acres, being an increase of some 6,000 acres over last year ; 4,000 acres of this increase is due to the Shevaroy Planters' Association having re-joined.

ELECTRIFICATION OF THE NILGIRI RAILWAY.—As instructed, we pressed for such arrangements as will be necessary for the above, to be put in hand without loss of time, so that immediately power is available it can at once be taken full advantage of. Our resolution was carried unanimously, and we asked for the strong support of the U. P. A. S. I. when sending in the resolution to Government.

ROADS.—There was considerable discussion over the strengthening of bridges, etc., on main outlet roads, to enable to carry motor lorry traffic, and we pressed that last year's resolution on the matter be emphasised, finally the following resolution was carried :—

"That this Association again press upon the Government of Madras the extreme urgency of the matter, of putting the main outlet roads and viaducts from Planting Districts in such order as to permit of the early adoption of mechanical transport."

INCORPORATION OF DISTRICT ASSOCIATIONS.—The majority have sent in their Articles of Association, and though the Secretary was anxious there should be no more delay, he proposed holding the matter over for another 3 weeks, after which he would proceed with the registration of those which had sent in their articles.

TEA CESS.—The meeting was in agreement regarding the raising of this to one pie per lb, with the stipulation that the Indian Tea Association be requested to press Government to impose a duty of 4 annas per lb on foreign teas imported into India.

COFFEE.—It was decided that the cable regarding coffee prices in the "Planters' Chronicle" start on 1st October, and continue till 31st May,

STATISTICS.—The time has come when the records in the Head Office must be as correct as is possible. It was, therefore, decided that the Government be asked to take steps to make the furnishing of all statistics relating to planting products compulsory.

DUTY ON TEA.—The Wynaad P. A. brought up a resolution asking for the removal of the export duty on tea which was supported.

INTER-DISTRICT RULES.—It was decided that these come into force as from 1st October, 1920.

ELECTION OF PLANTING MEMBER.—The Meeting nominated the Hon'ble Mr. J. A. Richardson as our candidate, and he promised to sit, but with the right to resign should he find himself unable to carry on, as he had heard it said that the Council is going to sit for some 4 or 5 months in the year.

G. O. RE. GOVT. HOSPITAL.—We asked the Hon'ble Surgeon-General Giffard how this would affect the local hospitals, (St. Bartholomews and Lawley) he replied that it was only applicable to Hospitals in the Presidency Town.

LEGISLATION.—The meeting agreed to the proposal of the Government of Madras that the amendment of the Labour Acts be examined by a committee, and elected as our representatives on the same—Messrs. Nicolls and Congreve, and also asked that we be allowed to add Mr. Waddington as Director of the Labour Department.

CO-OPERATIVE STORES.—After considerable discussion, it was agreed that the whole question be left in the hands of the Executive Committee.

SHIPPING FREIGHTS AND TONNAGE.—A resolution was put forward and carried protesting against the sudden withdrawal by the S. I. Railway of the concession rates on tea, and increasing the rate on tea by 133 per cent.

There was a deal of discussion on shipping freights, and it was pointed out that the present position of the freight market warranted a considerable reduction in the freights now charged on Tea, Coffee and Rubber. The West Coast Agents of the Clan and Ellerman lines assured the meeting that the resolution would receive their cordial support, and that planters might be certain that they would do all in their power to keep freights from the West Coast as low as possible.

S. I. P. B. FUND.—The meeting considered that the present amount, Rs. 200, which entitled one to become a patron is too low. It was agreed for the guidance of the General Committee in amending the rules, that the subscription to become a patron be raised to Rs. 1,000.

LABOUR DEPARTMENT.—A long time was spent (in Committee) on matters in connection with this Department; a full report of this meeting has, been printed and is available from the Secretary, U. P. A. S. I., Coimbatore.

GENERAL COMMITTEE MEETINGS.—We also attended the meetings held on 23rd and 26th August; full reports of which have been published in the *Planters' Chronicle*.

In conclusion, gentlemen, we thank you for the honour you did us in electing us as your delegates, and shall be glad to answer any questions relative to the meetings to the best of our ability."

Delegates' Expenses.

Proposed by Mr. A. S. Dandison, and seconded by Mr. Leslie Rogers that the delegates be paid Rs 200 each for their expenses to Bangalore.

Subscription to the U. P. A S. I.

The following resolution was proposed by Mr. A. S. Dandison, and seconded by Mr. G. F. Weston Elwes.

Resolved that the matter of unpaid subscriptions be considered, and dealt with by the Committee. Carricd.

Released Prisoners.

With reference to a letter from Mr. Wells, Divisional Officer, in connection with the employment of released prisoners, Sir Robert Stanes pointed out that the great disadvantage of employing these men is that they are constantly visited by policemen. The matter was left to individuals.

Roads and Communications.

After discussion the meeting adopted the following two resolutions under this head :—

Proposed by Mr. G. F.W. Elwes, and seconded by Mr. J. Beaver Vernede :—

"Resolved that Government be approached to ask whether they are now able to proceed with the strengthening of the roads and viaducts on the Nilgiri Ghaut road with a view to the use of motor lorries."

Proposed by Mr. E. G. Windle, and seconded by Mr E. Sydenham Clarke that further expenditure is required on the following District roads :—

Further, that the District Board members be asked to press the above. Carried.

Kotagiri—Mettupalayam Ghaut surface.
Lovedale—Devashola surface.
Coonoor—Kotagiri road from Woodhouselee to village at top of Hill
Katary—Kundah road.
Kill-Kotagiri—Mettupalayam bridle road, lower section.
Kartary—Yellanhully road.

In discussing this matter it was pointed out that the Mettupalayam suspension bridge seems to require immediate strengthening as a cart with its load totalling about one and a half ton was all that was allowed to pass over the bridge. Members were strong on the point of rendering bridges on district roads fit for motor lorry traffic.

Inter-District Rules.

In this connection the meeting elected Messrs A. S. Dandison, E. Sydenham Clarke, and J. B. Vernede to form the standing Labour Committee of the Association.

U. P. A S. I. Agenda.

In instructing the delegates on the items at the next General Council meeting on the point of raising the subscription to 2 annas per acre for the

third quarter of this year, the meeting by seven votes against one empowered the delegates to vote in favour of the extra two annas.

Restriction of Tea Output

Considerable discussion took place on this point, and the question of plucking finer and the advantages tea at lower elevations had over tea grown at higher elevations, and several other aspects of the question were discussed.

It was generally thought that a reduction would be automatically obtained with finer plucking. On the whole the meeting was against the restriction of output, other than that brought about by finer plucking.

Mycologist.

The meeting thought that the best station for the location of the office of the new Mycologist should be Coimbatore.

With a vote of thanks to the Collector for the use of the room and to the Chair, the meeting terminated.

(Signed) A. K. WELD DOWNING,
Chairman.

(Signed) A. N. HEARN,
Hon. Secretary.

THE MALABAR TENANTS' IMPROVEMENT ACT.

NEWS SLIP.

(FROM THE PUBLICITY BUREAU.)

The Government have published, for public information and criticism, a draft bill to extend the Malabar Compensation for Tenants' Improvement Act of 1899 to the Gudalur Taluk of the Nilgiri district. Objections and suggestions should be sent in before the 1st of January, 1921, to the Secretary to the Government of Madras, Revenue (Special) Department, Fort St. George. The objects and reasons for the proposed legislation are as follows:—

The area known as the Gudalur taluk of the Nilgiri district is composed of the Nilgiri-Wynaad and the Ouchterlony Valley. The whole of this country formerly belonged to the Malabar district. For administrative reasons, the Ouchterlony Valley was transferred to the Nilgiris in 1873, and the Nilgiri-Wynaad in 1877, but the conditions of tenure in these tracts are not distinguishable from those in the Malabar-Wynaad. Owing to the accident of their exclusion from the Malabar district, the tracts in question were not brought under the operation of the repealed Act I of 1887, or of the present Act I of 1900, which apply only to the district of Malabar. Representations have been made from time to time that Act I of 1900 should be made applicable to the Gudalur taluk of the Nilgiri district, as the tenants of janmis in that taluk require the protection of the Act just as much as the tenants of janmis in Malabar. It is accordingly proposed to extend the provisions of Madras Act I of 1900 to the Gudalur taluk of the Nilgiri district.

MUNDAKAYAM PLANTERS' ASSOCIATION.

MINUTES OF AN EXTRAORDINARY GENERAL MEETING, HELD AT THE MUNDAKAYAM CLUB, ON SATURDAY THE 27TH OF NOVEMBER, 1920, AT 2 P.M.

Present.—Messrs. T. W. H. Fitchett (Chairman), G. H. Danvers Davy, Keene, G. McPherson, C. L. McLean, W. Lyndon, A. V. Mawer, O. J. Egan Wyer, H. R. Carson Parker, F. G. Miller, H. B MacPherson, and F. H. Moulton (Hon. Sec.). Visitor: Capt. Shore.

1. Minutes of a Committee Meeting, held on October 20th, 1920, at 2 p. m. These were taken as read, and confirmed.

2. Memorandum and Articles of Association.—These were gone through, and it was proposed from the Chair, and seconded by Mr. G. McPherson that they be adopted Carried.

3. Breach of Contract Regulation of Travancore Act 2 of 1080.—Regulation 2 of 1080 was read by the Honorary Secretary, and after some discussion it was proposed by Mr. McLean, and seconded by Mr. Wyer that the matter may be dropped. Carried.

4. Agenda of Meeting of General Committee of U. P. A. S. I. to be held tat Coimbatore on 6th December, 1920.—This was gone through item by i em, and instructions were given to the Delegates attending.

5. Rubber Restriction.—It was proposed by Mr. Wyer, and seconded by Mr. Miller that a Committee be formed to check monthly figures, which should be forwarded each month to the Honorary Secretary. Carried. Proposed from the Chair, and seconded by Mr. Wyer that the Committee be formed by Messrs. Miller, McLean, Parker, and G. McPherson. Carried.

6. Delegates' Expenses.—It was proposed from the Chair, and seconded by Mr. McPherson that the amount sanctioned towards expenses to Delegates attending the U. P. A. S. I. Annual General Meeting be Rs. 350. Carried unanimously.

7. TEEKOY-ERRATTUPETTAH ROAD.—Mr. Wyer said that, although Government had made a definite promise to improve this road during the present Malabar year, parts of it were now impassable for bandies, and that produce and rice have to be carried by coolies. He proposed that the Delegate to the Sri Mulam Papular Assembly be asked to again bring up the subjects of roads, and to make special reference to the above. This was seconded by Mr. Parker, and carried.

8. Mundakayam School Grant.—The Hon. Secretary read a letter from the Rev. Dr. Gill, D. D., Bishop in Travancore and Cochin, requesting that the grant of Rs. 144 which was paid last year might be made a yearly subscription. The Hon. Secretary was requested to reply, that the Association could not make a yearly grant towards the Mundakayam School as many of the estates in the district provide educational facilities for the estate children, and to point out, that many outside children also attend these schools.

9. Instructions to Sri Mulam Delegates.—The Hon. Secretary was requested to communicate with Mr. Vincent, and to request him to bring the following items before the Popular Assembly :—

I. Roads. a.—Teekoy-Errattupettah road. Government in their letter No. P. W. 3280 promised to improve this road during the course of the next Malabar year, i.e., after August 16th, 1920, but the present condition of the road will not allow the use of vehicular traffic, and all transportation of rice and produce has to be done by coolies over 1000 yards at the Poonjat Lalam end. Special reference is to be made to this road and to Government's promise.

b.—Cheruvally-Vellanadi Road. The Meeting was of opinion that special reference should also be made to the above road, and attention be called to the fact that it has now been surveyed more than once.

c.—Mundakayam-Kottayam Road. The Delegate was also asked to impress on Government the importance of keeping this road in a thorough state of repair, as the traffic on it has increased greatly during the past two years.

With a vote of thanks to the Chair, the Meeting terminated.

(Signed) T. W. H. FITCHETT,
Chairman.

(Signed) F. H. MOULTON,
Honorary Secretary.

INDIAN TEA ASSOCIATION.

ABSTRACT OF PROCEEDINGS OF A MEETING OF THE GENERAL COMMITTEE, HELD AT CALCUTTA, ON 23RD NOVEMBER, 1920.

Before dealing with the business before the meeting, the Chairman explained that this was the last opportunity they would have of meeting Col. Kennedy. Without wishing to be unduly lavish in praising him, the Chairman felt he was expressing the sentiments of the entire industry when he said that Col. Kennedy had served the industry well. Col. Kennedy had been connected with tea from the commencement of his career. He came out to Assam as a District Officer; from that position he was transferred to the Assam Secretariat, and he was one of the most capable men who had handled the files. He then became Chairman of the Assam Labour Board, and the present efficiency of the Board was an undoubted testimony to the skill and ability with which he managed that organisation. Finally, the tea industry was fortunate in having him as Tea Commissioner for India. In connection with that undertaking the industry had very difficult people to deal with, and, as Tea Commissioner, Col. Kennedy handled all the matters that came before him, with his customary tact and ability. The Chairman, therefore, desired that this appreciation by the Association of Colonel Kennedy's manifold services to the industry be placed on record, along with the hope that he would be long spared to enjoy the rest in retirement which he had so thoroughly earned.

In a brief reply Col. Kennedy thanked the Chairman for his appreciative words, and the Committee for the reception given to them. It was true that, for the past 26 years he had been closely connected with tea, and tea planters, and for the latter part of that term with tea garden agents. He thought he might truly say that they were almost all his personal friends. He realised also, as an old Government Officer, what a great benefit the tea industry had conferred upon Assam through the employment of labour, and the colonization scheme so inaugurated. To him personally, it was a very great pleasure to hear what the Chairman had said, and also the manner in which the Chairman's words had been received. He assured the meeting that he was proud, at the end of his stay, to have heard such pleasant words about his services, and after expressing his thanks again for the kind and appreciative words, he withdrew from the meeting.

PROCEEDINGS.—The proceedings of the last meeting of the Committee on 9th November, 1920, were confirmed after previous approval in circulation.

CORRESPONDENCE WITH THE INDIAN TEA ASSOCIATION (LONDON).—Letters dated 21st and 28th October, 1920, from the Indian Tea Association (London), which had been circulated, were now to be recorded. The principal subjects dealt with were :—

(a) THE PRESENT FINANCIAL POSITION OF THE INDIAN TEA INDUSTRY.—In the letter of 21st October it was noted that, although a sympathetic hearing had been given by the India Office to the serious position of the tea industry as explained by the London Committee, no hope of Government assistance was held out. It appeared that, chiefly for political reasons, the Home Government refrained from assisting an industry so largely in British hands, and the London Committee accordingly suggested that any appeal to the Government of India for assistance, would probably carry more weight if supported by Indian owned gardens.

(b). PROPOSED RESTRICTION OF CROP.—The latest mail advices from London on this question showed that 90% of London controlled concerns had agreed to the proposed restriction for 1920, by the adoption of one or the other of the two suggestions concerning that crop, and that London concerns had been asked to issue the necessary instructions to their garden managers. Consideration was also being given by the London Committee to the General Committee's suggestions regarding equitable allowances for Darjeeling gardens and young tea.

(c) REGULATION OF SHIPMENTS OF TEA FROM INDIA.—From the letter of 28th October, 1920, the Committee noted with satisfaction that the London Committee had approached the different shipping lines direct, asking for their co-operation in connection with the endeavours now being made to restrict shipments from India to the 5% margin agreed upon for the three months ending 31st December, 1920.

(d) REGULATION OF LONDON SALES.—It was noted with much satisfaction from the letter of 21st October, 1920, that the London Committee were in communication with the Ceylon Association in London, in regard to these sales, and that efforts were being made to confine the London sales, during November 1920, to 40,000 packages weekly of Indian teas, and 21,000 packages weekly of Ceylon teas. Arising out of the consideration given to these advices, the question of private selling in Calcutta and in London was now discussed in connection with the entry of London

buyers into the Calcutta market for their requirements. On this question the Committee felt that, unless London concerns agreed not to sell privately in London, there was just the possibility that the restriction scheme for 1921 might have to be dropped on this account It was also felt that the attitude of Ceylon towards the 1921 restriction proposals should be ascertained as quickly as possible, and this was touched on in the following draft cable which was approved and ordered to be despatched immediately: —

Offers being made balances 1920-1921 crops but so far no private sales effected. What is position regarding selling privately and forward contracts in London. Committee consider most important London and Calcutta undertake not to sell privately so long as it is necessary to regulate sales and restrict out-put. If London do not agree afraid Calcutta concerns will withdraw from pending agreement restrict crop 1921 which we consider would have disastrous results to market. Cable your decision as soon as possible. What is position as regards restriction 1921. Most important decision arrived at without further delay.

THE PRESENT POSITION OF THE INDIAN TEA INDUSTRY.—Owing to representations made to His Excellency the Viceroy, during his recent tour in Assam, regarding the difficult position of the tea industry in India, the Government of India desired that the matter should be further investigated. For this purpose the Controller of the Currency and the Director-General of Commercial Intelligence had been deputed to make inquiries as to the position of the industry, and to make suggestions as to whether remedial measures were possible. The Committee discussed the position fully with these two gentlemen in a meeting prior to the one under record, and they hope to publish the proceedings of that meeting for the information of members, at the earliest opportunity.

PROPOSED REGULATION OF SHIPMENTS OF TEA FROM INDIA.—In connection with the arrangement now in force for restricting shipments to the 5% margin agreed upon for the three months ending 31st December, 1920, the Committee discussed the following Customs figures of shipments from Calcutta and Chittagong during October, 1920:—

	lbs.
Calcutta	17,862,582
Chittagong	6,715,139
Total ...	24,577,721

Taking the crop as 350 million pounds, the combined total for monthly shipments on the 5% basis was 17½ million pounds. As October shipments were considerably in excess of that figure, it was decided to advise the Calcutta Liners Conference of this, and to enquire what steps the individual lines were taking to comply with their London principals' instructions to keep tea shipments within this 5% margin.

OCEAN FREIGHT AGREEMENT—THE MONTHLY TEA RATE.—In a letter of 5th November, 1920 explaining their reasons for asking the Association to telegraph the November 1920 tea rate, the Ceylon Chamber of Commerce asked the Committee to favour them by telegraphing this information each month, when the information was being telegraphed to London. The Committee decided to comply with this request, without charge, and they directed the Secretary to arrange accordingly.

SURPLUS TEA GARDEN LABOUR.—As arranged at their last meeting, the Committee circularised members on 11th November, with a letter from the Chairman, Assam Labour Board, suggesting that concerns having labourers for whom profitable employment could not be found, might arrange to transfer their surplus labour to certain concerns who had applied for labourers. Additional applications for surplus labour were placed before members in circular No.72/1920, and it was now decided to take similar action in respect to further applications which had been received, When circularising members with these further letters of application, it was decided to mention that the Committee had not received any intimations of labour available for disposal.

INTERNATIONAL LABOUR CONFERENCE.—It was stated in the proceedings of 9th November, 1920, that the Committee had received from the Government of Bengal, copy of a letter of 23rd August, 1920, from the Government of India, Board of Industries and Mun tions, on the subject of the questions to be discussed in the meeting of the International Labour Conference at Geneva in April, 1921, together with a copy of the draft conventions and recommendations adopted by the previous meeting of the Conference at Washington in 1919. The views of the Association were desired on certain clauses, in the letter from the Government of India, regarding the adaptability of the decisions of the Washington Conference to agricultural labour employed on the tea gardens in the Bengal Presidency. The opinion of the Association was particularly desired regarding (1) the possibility of introducing a 60 hour week for agricultural labour in India, and (2) the minimum age for admission to industrial employment ; and, as these matters concerned labourers within the Bengal Presidency, the reference had been remitted to the Darjeeling and Dooars Sub-Committee for consideration and report. The Sub-Committee duly reported their recommendations, and a proposed draft reply based on that report was now approved and ordered to be issued. In their reply dealing with all the points raised in the correspondence, the Committee expressed the opinion with regard to enquiry (1) that there could be no objection to the introduction of a 60 hour week for agricultural or non-agricultural labour—the latter category presumably including factory coolies—seeing that few, if any, coolies, whether in the field, or in the factory, worked to that extent at present, and the tea industry would not expect them to work longer. With regard to enquiry (2), the Committee did not think there was any necessity for a definition in respect to the minimum age for admission to industrial employment, except perhaps in the case of workers in the factory where they suggested 14 might be taken as a suitable age. Copies of the replies were to be forwarded to the Dooars and Darjeeling Planters' Associations with the remark that, while the time allowed by Government for a reply did not permit of a previous reference to these Associations in the matter, the Committee would be prepared to consider the question of submitting a supplementary letter, in the event of these Associations having any further points to bring forward.

NOTES FROM ASSAM.

I have gathered a posy of other men's flowers, and only the girdle that binds them is mine own.

RIOTS ON TEA GARDENS IN ASSAM.

The Tea Garden Manager at present is getting well ground between the upper and lower mill stones; what with bad prices at Home, and high prices of rice and clothing out here, his is not a bed of roses.

The exchange having fallen to-day to 1/7 will ease matters a little, but will not affect the results for 1920 much, as the expenditure will only get the benefit of two months at the lower rate.

It has been stated in the Press that the reasons for the riots in Doom Dooma are—

1. Bad rice supplied to coolies.

2. Insufficient medical attention.

3. Too heavy fines for cattle trespass.

4. No sufficient rise of wages to compensate for high cost of living.

In answer to statement No. 1, Rangoon rice, of course, wants different cooking to our Assam Rice. The former should be put into cold water first for a preliminary soaking, but the latter can be put direct into the boiling water. When coolies are being issued with Burma Rice for the first time they require to be educated in the correct manner of preparing it.

Selling rice to coolies is not such a simple business as one would imagine; the most satisfactory way is to sell the rice for cash, as, if a cooly has to pay cash, he will probably be satisfied with one maund per month, whereas if he is getting the rice as an advance, he will take about double this quantity. As regards rice there are very few people as good a judge of rice as a cooly, and if he is not satisfied he will very soon let you know. Most European Medical Officers, too, make a point of inspecting the rice in the Godowns, and are always ready to complain if they imagine their sick list is increasing from this reason. One can have little sympathy with a concern which does supply bad rice. No one expects a pony to gallop on bad food and win. Excluding the humanitarian standpoint, it is a penny wise and pound foolish policy to supply bad rice when the cost of importing new coolies works out at about Rs 200 per adult. Of course it is possible that bad rice has been supplied, but times have indeed changed since the Gray-Ramsden era if the Doom Dooma and Pabojan Co. would fail in this. Personally, I do not believe it.

Insufficient Medical Attention.

Most planters, I imagine, have found the difficulty to be not to turn the coolies out of the Hospital, but to get them to come in immediately they feel ill.

A cooly will often be brought to the Hospital by his relations when he is half dead, and careful supervision is always required to see that cases are brought in for treatment when the first symptoms appear. Tea companies do not pay European Medical Officers, Doctor Babus and Dressers' fat salaries for sitting about sucking their thumbs, and all sensible managers encourage the Dr. Sahib to take a real interest in the coolies. I once heard a planter say that the Dr. Sahib only spent enough time in the Hospital to walk round the table and kick the cat. But thank goodness most of our Doctor Sahibs are animated by a high missionary sense of duty, and are out here not so much to make money as to bear their share of the white man's burden. No. 2 is a downright lie I am sure.

No. 3. Too heavy fines for cattle trespass;—

Managers have to make up their minds that they cannot run a cattle

ranch and a tea garden on the same land. The usual fines for cattle trespass are As. 4 for cows

" 8 for bullocks

Re. 1 fbr buffaloes

in the Tea, and I am certain these fines do not cover the damage done. It is a heart breaking sight to see branches broken off new infillings, green manure eaten up, etc., and, if the above fines were not sufficient to deter the coolies from cutting my fences and driving the cattle into the tea, I would not hesitate to make the fines heavier. At any rate, if the coolies have these cattle and pay fines of Rs. 4 and Rs. 5 for them being in the tea, they cannot be paupers and on the verge of starvation. I pay a fine myself if I find my own cows are in the tea ; the native establishment have to pay also. I have always been unfortunate in the results obtained from saying " Please don't do it again."

Statement No. 4. No sufficient rise in wages to compensate for the higher cost of living.

During the past two years we have had official meetings in every district in Assam to discuss the question of coolies' pay, and a general rise of wages was agreed to. In justice, it must be stated Doom Dooma Planters were the first people to suggest raising wages, and I have information that they have already done this. It must not be lost sight of, however, that there is such a thing as having too much labour on a garden, and I believe a lot of the gardens up the road have too big a labour force. It stands to reason that, of two gardens paying Rs. 1,500 each per month in wages, if one garden has only $1\frac{1}{2}$ coolies per acre and the other has $2\frac{1}{2}$ coolies per acre, the coolies on the first garden will naturally be better paid. In most parts of Assam it is possible to make 10 mds. per acre of good Tea with $1\frac{3}{4}$ coolies per acre. This can be done by giving liberal ticca week days and Sundays, and letting the coolies always have the opportunity of earning extra money. The unit system of working is the best I know. Plucking 2 pice per seer. Rs. 3-12-0 per maund of pucca tea. Pruning 4 annas for 20 bushes, about Rs. 7-5-0 per acre (according to the planting). Light Hoeing 4 As. for 30 nulls, Rs. 2-5-0 per acre.

Satan finds some mischief still for idle hands to do, and, if coolies have no *mali barri* or plot of rice land on which to spend their leisure hours, one feels they should have the chance to earn extra money for the few, small luxuries which may be within their reach.

Among other wild statements in the Press, one was that Captain Furze the Superintendent of Police; after he had been brutally attacked from behind had been abandoned to the mob. This is a lie. Capt. Furze was picked up by the European Planters, and carried into a bungalow directly after the assault, and his injuries were quickly attended to by a European Doctor. The planting community may be grateful to the Doom Dooma Planters for keeping their heads and not firing wildly on the mob, even in self defence. The older planters are responsible for this advice, and one can imagine the howl of execration there would have been in the native press if a rioter had been killed or wounded. The Government have no opportunity for making a Dyer scapegoat on a smaller scale, and are responsible now for deterrent sentences in their own courts, to prevent further offences on life and property. Our leading newspapers have published reports in which the truth has been wilfully distorted and misrepresented, more in the style of William le Queux than of a responsible journalist.—*Indian Scientific Agriculturist.*

LETTERS TO THE EDITOR.

[The Planters' Chronicle is not responsible for the opinions of its Correspondents.]

Pullangode Estate,

Pullangode P. O., Via Manjerri,

1st December, 1920.

Restriction of Rubber Output.

Sir,—It was only after the posting of my letter of the 29th ultimo to you yesterday that I received the P. C. of the 27th ultimo, and read the noteon the above subject.

It appears from this that London "regret they cannot see their way to make any special concession to Planters in Southern India" for next tapping season owing to over seventy per cent of the acreage of South India having agreed to the original proposals of the R. G. A.

This but serves to point the remarks that I made in my letter under note, and in my opinion it makes it all the greater pity that we did not stand out more urgently against any unfair treatment of South Indian interests, at the local meeting of the R. G. A., held at Cochin on October 5th.

Perhaps it is not too late now to urge our claims, and anyhow, from the shareholders and small proprietors' point of view, to protest against the injustice of the decision arrived at.

Yours faithfully,

(Signed) S. P. EATON.

P. S.—May I, in fear of misconstruction, emphasise that I am absolutely in favour of the main principles of Restriction, Co-operation and Unity. They are all very sound and very necessary, but I do think that they should be carried out on as just and fair lines as is possible to share-holders and proprietors. South India has not only made less profits in the past than Malaya and Ceylon, but over a far less number of years, and however little she restricts she will suffer to a far greater degree, as I have endeavoured to prove by the figures given you, and I would point out that those figures do not take into account past profits, but only apply to present day working costs,

(Signed) S. P. EATON.

Tellicherry, 4th December, 1920.

Dear Sir,—We beg to enclose copy of a letter received from our Bombay Firm on the subject of Coffee Planting in the Central Provinces, which may interest Coffee Planters. Would you kindly publish the letter in the Chronicle?

Yours faithfully,

PER PRO. VOLKART BROTHERS.

(Sd.) Illegible.

ENCLOSURE.

Bombay, 29th November, 1920.

SEEDS DEPARTMENT.

Messrs. Volkart Brothers,

Tellicherry.

Re Coffee Plantation in Central Provinces.

Dear Sirs,—We had the visit a few days ago of Mr. Best, the Forest Officer of the Melghat Division at Chikalda. He thinks Government would be quite prepared to give forest-land to intending coffee planters in the Melghat (Chikalda) district on very advantageous terms. He believes that ground could be had at a rental of Re. 1 per acre p. a. for a period of 5—10 years with revision of rates after this period. He is further of opinion that the Government will be quite ready to give an area of, say 500 to 1,000 acres to one individual party, to give the planter a reasonable chance right from the start.

He says that, in the Government plantation up there, where they had planted the trees 6 feet apart, they were collecting on an average 2 lbs. of coffee per year and per tree, and that this average gross yield, good and bad years taken together, amounted to 200 rupees per acre. This year, he hopes to get as much as Rs. 300 per acre. It must of course not be forgotten that at present all that is produced in Chikalda is sold retail, so that for large quantities the same rates could no doubt be obtained.

As to a possible central curing station, he also proposed Ellichpore as the only place suitable. Ellichpore has, he said, a river with water all the year round, is on the railway line, and is connected by good forest roads with the whole Melghat.

Mr. Best would be much obliged if you would kindly acquaint the coffee planters down there with the chances up at Chikalda.

Yours faithfully,

PER PRO. VOLKART BROTHERS.

(Sd.) I. VOLKART.

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EDWIN VINCENT,
Managing Editor, Coimbatore, S. India.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" Coffee.

(BY CABLE.)

LONDON, DATED 10TH DECEMBER, 1920.

115s./- per cwt. Market Quiet.

THE RUBBER POSITION.

It may seem strange that we should quote a Singapore opinion, dated October 6th, over two months ago, but as a matter of fact the position of rubber, although actually slightly worse in the matter of prices, remains, much the same generally; the fall in exchange having compensated Ceylon and South Indian Planters to some degree for the further slump in the market. We have often enough envied our F. M. S. friends their fixed dollar, and are still prepared to argue in favour of a stabilised rupee exchange, the reason for this apparent paradox being that, for the nonce, Malaya, although controlling still the output, is producing Rubber at a loss. We have argued in the past that Malaya, producing as she does the major

portion of the world's output of plantation rubber, the price of the commodity should fluctuate round about the cost of production in that country. Eventually, we maintain, it must do so but, as in most economic laws, outside factors sometimes disturb the equilibrium, and time is needed to stabilise the position, which must inevitably be regained.

In the meanwhile, we are benefitting at the expense of, or at least losing less than Malaya. The under-consumption as it has been put, rather than the over-production of rubber has caused a slump in prices not anticipated in Malaya when the dollar wa fixed at 2*s* /4*d*. for a further period of 15 years. It follows that with prices at roundabout 1*s*., which we note is quoted to-day, and Rupee Exchange 1 $4\frac{3}{4}$*s*. we are still getting $11\frac{3}{4}$ annas in London for our first latex crepe, against the Malayan figure of about 43 cts., with the dollar at 2*s*. 4*d*. To all intents and purposes we may these days put the dollar and the rupee very much on a par which makes manifest the advantage we at present hold over our Malayan friends. Small wonder then that Singapore should express a considerable feeling of depression. At present pr ces, a number of Estates are in a parlous state, as their all in costs exceed or are on a parity with the market rate. There has been in the F. M. S., as we have before pointed out, a great divergence of opinion on the matter of restriction of output, which has led to a most unsettled feeling, so that we can sympathise with Rubber Planters in Malaya on their most unsatisfactory position.

It should not be inferred from this that Ceylon and S. India are in clover, on the contrary we are out to extract what crumbs of comfort we can from the various sources at our command. A Singapore correspondent, for instance, to the "Indian Rubber Journal" says, in spite of the gloomy opening outlined above, that a spirit of quiet optimism prevails, and shares are being closely held. This is characteristic of the share market in London too, all through this trying year, when one would have expected something approaching panicky selling. We have heard locally of the machinations of U. S. A. concerns, and a mysterious combine, which are keeping down the price of rubber. These our mentor classifies as a bogey, showing a lack of knowledge of the existing stress of circumstances in America. From this it is only a short jump to the feeling that trade crises are so common in America that the remedies are usually ready to hand, so that recovery is inevitable, and not far off. What are the other factors which have contributed to the present unsatisfactory position of the Raw Rubber Market? Industrial unrest, higher wages, shortage of cotton and unfavourable continental exchanges. Industrial unrest is periodical, higher wages have put motor cars out of bounds for many who would otherwise have helped to use up tyres, but for the consequent increase in production costs. Exchanges are important when we consider that Rubber at 2s. 7d. in May 1914 was cheaper in France then than it was at the beginning of this year, when the price in London had dropped to 2s. 3d. The Continental Exchanges are improving gradually, and there seems no reason to doubt that there will be a considerably increased demand from these markets in the near future. The other reasons given are transitory, and, except for the cotton shortage do not interfere with the opinion now widely expressed at home, that the slump will be over by midsummer, 1920. There can be no doubt that the market has been hard, but by a succession of disasters, not only at home but abroad reflecting on London, and it would seem legitimate to suggest that prices will now find the level at which it is possible to bear the burden; the level from which they may begin to recover, provided some help is extended at the critical moment.

SHEVAROY PLANTERS' ASSOCIATION.

PROCEEDINGS OF AN EXTRAORDINARY GENERAL MEETING, HELD AT THE YERCAUD CLUB, ON 25TH NOVEMBER, 1920, AT 2 P.M.

Present.—Mrs. F. D. Short, Mrs C. G. Lechler, Miss Doris Lechler, Messrs. S. M. Hight, L. Hight, N. M. Hight, V. L. T. Drapes, W. I. A. Lechler, W. Rahm, and H. S. Dickins. *Visitor*—Capt. E. G. Windle.

Proceedings of Committee Meeting, held on 14—10—20, by which Messrs. H. S. Dickins and V. L. Travers Drapes were elected to represent the Association on General Committee, U. P. A. S. I. were confirmed.

U. P. A. S. I.—The Meeting then went into Committee to discuss the agenda of General Committee Meeting to be held on 6-12-20, when the Delegates were instructed on the various subjects.

Nagalur Dispensary.—Read letter from the D. M. & S. O. Salem; Rs. 5 400 had been granted by District Board for 1920. Rs. 4,600 had been collected from Nagalur Planters, making a total of Rs. 10,000. Revised estimate for construction amounted to Rs. 12,300 the balance of Rs 2,300 would be met by the District Board, and would be included in budget for 1921.

Read and recorded correspondence, Collector of Salem, *re* site of the Toddy Shop; Superintendent of Police, *re* operation of Police Reward Fund; Deputy Tahsildar, *re* Waiting Room at Cutchery, Yercaud; G. O. No. 848/ Revenue Special, *re* the restriction of export of Manures, Bones, Oil cakes, and fish; Offg. Director, Royal Botanic Gardens, Sibpur, *re* procuring plants and seed of "Avocado Pears (Persea gratissima) from the District.

With a vote of thanks to the Chair, the meeting terminated.

(Signed) H. S. DICKINS,
Hon Secy. & Chairman.

EXCHANGE.

THE BRUSSELS CONFERENCE.

The Bank of Bengal discount rate is now 7 per cent., a sinister indication of the extreme tightness in the money market. Lenders are reaping a harvest, and the Marwari community—it seems—refuse to look at any investment which pays less than 14 per cent. The stringency is aggravated by the numerous new companies which are now endeavouring to speed up the collection of their funds, and share-holders are worried about their calls, which are not quite so easy to meet as was anticipated earlier in the year.

Importers are hard hit. Encouraged by the state of exchange, a few months ago many embarked upon commitments which the recent decline of exchange has rendered quite impossible to carry out. Large numbers have frankly retired from the field, and the warehouses are getting congested with undelivered stocks.

The history of Indian Exchange during the past year points a moral which Government may well take to heart. Economics, and especially that branch of it which has reference to the movements of international trade, is a science embodying laws which it is often disconcerting, if not positively dangerous, to tamper with. The experience of the Government of India in their exchange activities affords a vindication of the doctrine of *laissez*

faire, such as wou'd undoubtedly have brought joy to the old Manchester School. The vagaries in the fluctuations of silver, the sudden readjustment of the balance of trade consequent upon the coming of peace, and the general trade optimism incident thereto together with a few other causes, induced a condition of exchanges between Britain and India which caused alarm to the exporter and great joy among the importing houses. Stampeded by cries from various interested quarters, the Government adopted so-called "measures" to stabilise the exchange and fix the value of the rupee at a reasonable and equitable figure. But the pendulum is now swinging the other way, and the laborious devices of a paternalistic Government are productive of nothing but loss to the currency and chagrin to those who hailed the decrees of the state as a final settlement of the exchange difficulty.

A somewhat tardy avowal of the futility of its efforts is now made by the Government of India in a letter to the Bengal Chamber of Commerce, in which it is argued that the gradual reduction of the sterling resources available for the support of exchange made it incumbent on the Government to withdraw from the market, and that the mere resumption of the sale of Reverse Councils would, if unsupported by collateral growth of actual exports from India, be of no avail. "But for the rest they can only now rely on the natural course of events and the return of favourable export conditions. The Government of India see no reason why the operation of natural conditions should not allow of the eventual fixation of exchange at the level advocated in the Report of the Currency Committee."

They are of course considering the suggestions forwarded by the Indian delegates to the Brussels Conference. The object of the Conference is to consider means whereby credit facilities could be granted to countries whose financial position has been seriously weakened by the war in order to enable them to proceed with the purchase of necessary imports. The Officiating Secretary to the Government of India, in the Finance Department, has now forwarded to the Chamber of Commerce the report of the Delegates from India, and observations thereon are invited. According to the Report, the financial and economic strength of India is impressive as compared with that of the majority of the participants in the Conference. Three out of every four countries represented at the Conference, and eleven out of twelve European countries, anticipate a budget deficit in the current year. India has a surplus of commodities to dispose of, whereas many countries are suffering from a deficiency of food-stuffs and raw materials and from depreciated currencies. On the practical question of the construction of machinery for international credits, the Indian delegates, after explaining that they could not commit their Government, propounded the view that what was required was, not so much the elaboration of novel and untried devices as, the repairing of machinery already existing though now in disuse. The resolutions of the Conference have been published, and the Delegates have invited a communication of its views from the Government of India at an early date.

From the purely national point of view, a, forcing down of exchange, in so far as it would benefit the Indian exporter, would in the present state of Indian industries be a desirable end. To the importer, on the other hand, nothing matters if exchange rises to a figure such as would again enable him to take up his commitments. But, high or low, what trade really requires is stability. To allow exchange to stabilise itself through the operation of the laws of supply and demand without artificial interference, while at the same time assisting a scheme of international co-operation designed to bring about the revival of healthy industry in lands stricken by the war, is surely the surest of policies.—*Commercial Gazette*.

THE COFFEE MARKET.

A correspondent recently suggested that we should give from time to time information dealing with the price of coffee locally, as being of interest to a large number of planters who sell in this country, and are not therefore directly affected by the information given in our London Coffee cable. To meet this request we have made arrangements to be kept informed of the position from time to time, but it must be understood that we cannot promise a weekly note, and it suits our purpose better, we think, to give occasionally a general review of this market, both in London and locally

We are indebted to Messrs. Peirce Leslie & Co., and to their London friends, Messrs. Leslie and Anderson, for much of our knowledge of the position.

Reviewing now the features of the past month, it appears to have been increasingly difficult to clear the balance of last season's coffee in London ; the Continental exchanges having fallen considerably. This has naturally checked the Export Trade, which had shown some signs of revival. Buyers pick and choose, with the result that the market has remained very dull and quiet. In Mail week there was an increased demand for Indian coffee at advancing prices and keen competition for good Nairobis. Clean parcels, above suspicion of any taint, are very scarce and fetch full prices. "The Produce Markets Review " says there is a shortage of fine Peaberry, both Costa Rica and Mysore, and it is increasingly difficult to fit up enquiries for these. Our contemporary is invariably well-informed, and we judge from the tone of recent reports that the market may be expected to improve.

LONDON COFFEE RETURNS.

	Home Consumption.		Export.		Stock.	
	1920. Tons.	1919. Tons.	1920. Tons.	1919. Tons.	1920. Tons.	1919. Tons.
For week ended November 13 ...	322	291	531	156	21,297	21,645
For 46 weeks ended November 13 ...	15,140	16,146	12,435	17,832	...	...

Locally, on the coast, some considerable business was done prior to 15th November, but there has been little doing since then. This market is of course largely affected by French Shipments, of which there have been very few. On the 6th December, the following prices were realised at auction in Coimbatore :—

New crop Parchment	...Rs. 58 per cwt. immediate delivery.
Do. do.	...Rs. 55 per cwt. delivery by 31st December.
Old crop Parchment	...Rs. 40/50 per cwt. according to quality.
Plantation Peaberry	...Rs. 67/-8/75—immediate delivery.

THE LABOUR SITUATION IN CEYLON.

While it is undoubtedly true that there are many up-country estates which are paying satisfactorily and which urgently desire more labour, it is equally true that the labour situation in the low-country is becoming critical.

A *Times of Ceylon* representative learns authoritatively that already—within a few miles of Colombo—there are many gangs of coolies (some of them large and some of them small) who have been discharged and who are wandering from estate to estate in search of employment. These gangs are growing in number, the coolies are destitute and, in the low-country, there is little or no chance of their obtaining immediate employment. In many instances these coolies are disinclined to seek employment on up-country estates, and it is essential that immediate action should be taken to relieve their distress and to prevent the gangs becoming a menace to the country-side. It is essential that estate agents and estate superintendents should realise the gravity of the situation, and should send in the returns which have been called for by Mr. G. Furse Roberts (the Director of the new Labour Bureau), without a single hour's delay.

It is quite evident that the estimate that 150,000 coolies will be thrown out of employment is a pessimistic one, and that the number for whom relief work may have to be found will not be nearly so large as this. At the same time it is clear that relief work of some sort will have to be started in the low-country very shortly, if a most undesirable situation is to be avoided. Every effort should be made to induce these unemployed gangs of coolies to accept employment in the hills and, if they are first provided with suitable warm clothing, much may be done in this direction. At the same time there are sure to be large numbers who will decline such offers, and it is imperative that provision should be made for these people.

It is a matter of urgency, and the important point which has to be borne in mind is that Government cannot very well start relief works until they have some definite information as to the approximate number of coolies for whom such work will have to be found. For this reason, returns should be sent in at the earliest possible moment.—*Times of Ceylon.*

TEA NOTES.

Stocks in London.

The London correspondent of the *Englishman*, writing on November 10th, says:—

> "The stock in bond London only at 31st October is 167¾ million lbs., an increase of 4 millions over September stock, whilst the importation during October shows an increase of under 2 million lbs. compared with the previous month. Deliveries show a falling off of 1½ million lbs. The stock in bond for the whole of the United Kingdom at 31st October stands at 225 million lbs."

The Restrictions.

In view of what we wrote in our issue of 4th instant, it is interesting to read the following from the same source as the above paragraph:—

"It is possible that the small improvement in the market is but a temporary phase, but on the other hand the improvement may be due to the movement towards a restricted output having brought in a securer feeling, and thatt he corner has been turned so far as common tea is concerned, and that the exceptionally low level of price experienced lately for that grade will not again be seen. At this critical time, everything depends on how sellers feed the market. If they will restrict printings to a comparatively small quantity weekly a critical period in the industry's history may be safely met and passed. If tea is forced on the market to meet the improvement in prices, regardless of consequences, it is more than probable that the market will suffer a relapse, and prices for plain medium and common tea go to pieces."

In Mail Week.

"The Produce Markets Review" says finer grades sold at fully firm to dearer prices, and all tippy teas met good competition. The recent advance in common sorts was not maintained.

This bears out the *Englishman's* correspondent who, a week previously, wrote:—"As I have said more than once, eliminate the rubbish that has come to us this season, and you will find that we have none too much tea to go round, especially as we are carrying the stock of the whole world."

Ceylon Tea.

Figures of Ceylon Tea exported by rail *via* Tallaimannar to the following stations in South India :—

	lbs.
Tinnevelly	3,880
Dindigul	210
Cannanore	4,355
Mutupet	101
Cochin	1,260
Trichur	2,602
Ramnaad	280
Badagara	10,904
Trichinopoly	1,397
Madras	1,202
Mangalore	215
Palghat	1,000
Adiramapatnam	130
Tirur	160
Ayyampet	30
Alleppey	1,200
Total ...	28,926

These figures are taken from the "Ceylon Chamber of Commerce" Weekly Price Current, dated 22—11—20 and 29—11—20.

October Shipments.

The statistics of export of Indian Teas from Calcutta, Chittagong, and South Indian ports, show a continued falling off in comparison with 1919 and 1918. In October, 1920, the following amounts were given in the Indian Tea Association circular:—

		lbs.
From Calcutta and Chittagong—		
To Great Britain	...	26,639,821
To other places	...	2,443,720
From Cochin—		
To London	...	1,290,382
To other places	...	26,938
From Alleppey—		
To Mombassa	...	95
From Tuticorin—		
To Colombo	...	247,310
From Calicut—		
To London	...	761,741
To Colombo	...	231,507
To Bombay	...	4,652
Total for October	...	31,646,166

The total sailings from all India from 1st April to 31st October, 1920, amount to 139,845,145 lbs. against 180,913,352 lbs. in 1919, and 215,824,686 lbs. in 1918. Exports have, therefore, decreased by some 65% on the 1918 figures. The exports from Ceylon also show a decrease, though only a very small one, compared with South India as the following figures will demonstrate. They are taken from "Ceylon Chamber of Commerce" Price Current.

					lbs.
Total Exports from 1st Jan. to 15th Nov. 1920				...	Black...156,342,375
Do	do.	do		...	Green... 2,788,991
Do	do.	do	1919	...	Black...162,407,832
Do	do.	do		...	Green... 2,232,236
Do	do.	do	1918	...	Black...156,692,006
Do	do.	do		...	Green... 1,279,186
Do	do.	do	1917	...	Black...165,290,397
Do	do.	do		...	Green... 4,603,336

These figures are obtained from manifests completed up to 15th November 1920. Incomplete manifests prior to that date are not included.

INDIAN TEA ASSOCIATION.

A Special Meeting of the Committee was held at Calcutta on 23rd November, to confer with the Controller of Currency, and the Director-General of Commercial Intelligence, regarding the general position of the tea industry and the question of finance.

In summarising the difficulties facing the industry, and the means being taken to rectify matters, the Chairman put forward the following suggestions among others as to how he thought Government might help the situation :—

The abolition of the export duty of Rs. 1-8-0 per 100 lbs. on tea.—This tax was introduced in 1916 when Government were considering ways and means to produce additional revenue to meet war time expenditure. The industry presses Government, without success, for a declaration that this would be a war measure to be withdrawn with the cessation of hostilities. In introducing his 1916 budget into Council, the then Finance Member contended that the tea interests should not object to this tax because the industry was free from payment of income tax. Roughly Rs 33 lakhs was realised by Government through this tax. But, as this amount was governed by exports, the tax represented between Rs 30 to Rs. 40 lakhs to the industry. The Chairman thought Government must admit, having regard to the present position, that this tax should not be borne by the industry now. Representations had already been made to the Government of India for the immediate withdrawal of the tax, and this request was now put forward again, most strongly, for favourable consideration.

Finance of small proprietary concerns without Calcutta agents—Although it is expected that the large tea companies will be able to carry on, with the backing of their Calcutta agency houses, during the coming season, it was suggested that the situation of the small proprietary concerns, the majority of which were Indian owned, would require help. It was understood such concerns had not made any arrangements for finance through the banks, and, as they did not see the expediency of employing Calcutta agents, Government assistance would be required to keep these concerns going. The Chairman accordingly suggested that Government should make enquiries into the position of such concerns. The Association would be willing to assist any enquiries, if Government would assist these concerns, as it was felt that, without Government assistance, there was no alternative but that these concerns would have to be closed down for lack of financial assistance.

The Russian market.—From the recent announcement in the press, it had been noted, that the Home Government were considering the advisability of resuming trade relations with Russia. In this connection the Chairman urged that the value of this market to the Indian tea industry might be brought to the notice of the Government of India who might be asked to represent to the Home Government the necessity for re-establishing trade with Russia so far as the tea industry is concerned as soon as possible.

These were among the requests which the industry had to put forward and, in connection therewith, the Government representatives explained that they had only been deputed to put the industry's recommendations

before the Government of India, and they could not say therefore, to what extent the recommendations would be acted upon.

TEA CESS FUNDS.—The Hon'ble Samuel Best, Chairman of the Indian Tea Cess Committee, explained that the Tea Cess Committee were now placed in a very awkward position through shortage of funds on account of depleted income through restricted shipments. The estimated revenue for the current year was Rs. 4,85,000 and for the first 7 months of the year only Rs. 1,70,000 had been received. There was a balance of Rs. 71,000 carried forward at the beginning of the year. This balance together with the Rs. 1,70,000 had been spent already, and, as shipments were being restricted still, only approximately Rs. 3 lakhs were expected this year. This left a stortage of Rs. 1,10,000 still to be obtained, and which, when obtained, would not be sufficient to meet requirements at the present rate of spending. The Tea Cess funds were entirely depleted. Some time ago, the Chairman and the Vice-Chairman of the Tea Cess Committee guaranteed an overdraft from the bank of Rs. 50,000, and this money was now gradually being utilised. What was now required was a guarantee from Government of a further sum of say Rs. 1 lakh to allow the Tea Cess Committee's operations to be carried on during the balance of this year. This was not really a loan. The tea is in the country, and cess will require to be paid before it leaves the country. The request was that Government should accommodate the Cess Committee for such time as the balance of the tea cess was realised. The Cess Committee had already applied to Government for an increase in the present rate of cess, and a notification to this effect was published recently.

With regard to this request the Controller of the Currency explained that he had already talked the matter over with Government, and he indicated that there would be very little difficulty in getting this assistance from Government.

A discussion then followed regarding the suggestions put forward by the Chairman. The first and foremost need was the withdrawal of the export tax, and this was pressed for.

The discussion then turned on the labour question, and it was explained to the Government representatives that a pre-war labour force of two adult coolies to an acre, now represented, owing to the increased cost of rice, three coolies per acre. The extent to which tea garden populations would be reduced, was held to be dependent entirely on the financial stability of the tea concerns. If coolies are discharged, the cost of re-establishing labour forces will not be less than Rs. 200 per acre. In view of the advisability of further colonising the province, and the detrimental effect repatriation must have on future recruiting, it was considered that repatriation should be avoided, if possible. The number of coolies to be thrown out of employment would be indicated in the replies, being received by the Assam Government, from the local planters, and the Committee regretted they could not give an indication of the numbers so affected. From the report issued recently by the Director General of Commercial Intelligence, however, it was ascertained that there were approximately 700,000 permanent and 100,000 temporary coolies, on the tea gardens. Regarding the temporary coolies, Col. Kennedy suggested they need not be taken into consideration, as they were practically ryots who would be in a position to receive such assistance as ryots received through the usual method of *takavi* loans.

Col. Kennedy suggested that the industry should be organised to find out what work is available for these unemployed labourers. He thought tea garden coolies could be utilised for employment other than tea, without letting them leave the province. He understood that in the cold weather, labourers are imported from outside the province for work in Assam; and he thought this work should be given to the unemployed tea garden coolies. In this connection the Chairman explained that the Assam Government had already taken steps to utilise surplus coolies for road making, and other work, but regarding this matter, it had been suggested that the local Government had not money to provide employment on a sufficiently large scale.

Mr. Alder then enquired whether the industry could say anything about the probable rapidity of recovery. In regard to this enquiry the Chairman expressed the opinion that, if trade relations with Russia were resumed and *that* tea market revived, the position would right itself very quickly. If Russia came into the market, it would not be long before accumulated stocks were worked off, seeing that the industry had undertaken to restrict production during 1921. The Russian market absorbed roughly 25% of the whole world's consumption, and took between 200 million to 250 million pounds.

Replying to a question by Mr. Alder, the Chairman explained that small proprietors represent not more than 10% of the total area under tea. The concerns controlled by Calcutta agency houses represented approximately 88% of the total leaving 12% for Indian concerns and proprietary concerns which he understood are all in financial difficulties now. With reference to the gardens coming within this 12% category Col. Kennedy suggested that from a political point of view these should be maintained. The new Government would be more or less Indian, and they would look on the tea industry as a purely European industry as they did at present.

With reference to the question of unemployment on tea gardens, the Hon'ble Samuel Best enquired whether in view of the likelihood of Government opening up big relief works to employ these surplus coolies, it would not be better for Government to come to some understanding with the banks for financing gardens seeing that these relief works meant laying out a lot of money by Government. He suggested Government might assist finance by guaranteeing overdrafts to keep tea gardens going. This point was bound to arise sooner or later if no improvement in the present situation took place. This enquiry was noted.

THE U. P. A. S. I. RULES.

In view of the modifications, an addition to the rules of the U.P.A.S.I. (as published in the appendix to the Book of Proceedings 1920) which were made at the recent meeting of the general Committee at Coimbatore, it would appear desirable to publish the rules in full as they now stand.

1. Each District Association shall register with the Secretary, not later than 15th March each year, details of the area on which subscriptions due the U. P. A. S. I. are to be calculated for the ensuing year.

2. The Chairman shall be elected by ballot at the Ordinary General Meeting of the Association held each year, and shall hold office until a successor has been duly elected.

3. Should the Office of Chairman become vacant the Executive Committee shall appoint one of its members to hold office and fill the consequent vacancy in the Committee, such appointments to hold good until the next Ordinary General Meeting of the Association.

4. In the absence of the Chairman in the case of any Banking Account requiring two signatures, those of the Secretary and any member of the Executive Committee, shall suffice.

5. The election of the Executive Committee shall be by ballot, representatives of each industry to be elected by the votes of the area under the corresponding products only.

6. No subject other than those on the published Agenda shall be discussed except with the consent of the Meeting, and no original proposition shall be made without the consent of the meeting, unless 30 days notice in the case of an ordinary meeting, and 14 days notice in the case of a General Committee meeting stating objects and reasons has been given to the Secretary.

7. The Deputy Director of Agriculture, Planting Districts, shall be permitted to move resolutions at General Meetings, and Meetings of the General Committee, but shall have no vote.

8. In addition to its two nominated representatives, each District Association may send three of its members to attend the General Meeting of the Association who shall be allowed to address the meeting, with the permission of the Chairman, but shall not vote.

9. The Budget for the ensuing year shall be submitted to the General Committee before the first March each year.

NOTES AND NEWS.

Shipping Freights.

Information has been received that the freight rate on Coffee per direct Clan Steamer to London from the West Coast has been reduced to 135s less 10% rebate.

The Coffee Market.

Since writing the article under this heading which appears on another page, we have been favoured with R. J. Rouse & Co's latest report, dated London, 24th November, 1920, which states that "462 bags East India were brought forward, the greater part consisting of second hand lots, but the bulk was again bought in, those parcels that sold were of good quality, and fetched steady prices. There is more demand for common descriptions of all kinds."

The Labour Department.

But the time this issue reaches our readers, Mr. F. W. Winterbotham will, we hope, have rejoined duty at Mangalore. He is due to arrive in Colombo on the 16th inst. Mr. G. Walker sailed from Mangalore on the 13th by B. I Steamer for England *via* Karachi.

Stalk in Tea.

Buyers of tea are still very averse to the presence of stalk, and such teas are difficult of sale, says "The Calcutta Commercial Gazette and Investors Guide." Many teas exhibit a high percentage as much as six or seven per cent of stalk. The tea itself is good enough, but it is spoilt in buyers' appreciation by the stalk. Up till recently the only means of eliminating the stalk from the tea has been by hand manipulation, the cost of which is prohibitive. Now comes news from London of an efficient machine for clearing tea from stalk. The machine is capable of dealing with up to 600 lbs. per hour, and has been designed to work either as an attachment to Savages tea cutter, or as a combined milling machine and stalk separator. The action is automatic the cleaned tea being discharged separate from the stalk.

Rubber Restrictions.

An intimation has been received from the International Association for Rubber Cultivation in the Netherlands Indies that over 70% of the producing area owned by members of that Association have agreed to the proposals for a 25% reduction of output.

LETTERS TO THE EDITOR.

[*The Planters' Chronicle is not responsible for the opinions of its Correspondents.*]

A Greeting from St. Dunstan's.

(Continued.)

Sir,—This is the Season of Greetings and Gifts.

May I send to your readers Greetings, and ask them to send to me Gifts?

These greetings will, I hope, give real pleasure. They convey the gratitude of the soldiers blinded in the War for the sympathy and help which has come to them from all parts of the World. They carry the news that all we hoped for from the training given at St. Dunstan's which is being justified by these blinded men in the very wonderful success that they are making of their lives.

I do not think that anyone would say it gets easier to be bravely blind as the years go on. It becomes easier to do things in the dark, but the demand on the will to keep pace with normal life grows greater rather than lessens. Constant effort is extraordinarily exacting, and it is really splendid

how the men meet this demand on themselves, keep up their interest in everything and maintain their notable record as workers; some in offices, some practising as masseurs, some as poultry farmers, and others as expert craftsmen.

There are still more than five hundred men learning to be blind in our class-rooms and workshops.

Besides those actually blinded on the battlefields, 23,000 men were discharged from the Army with seriously damaged sight, and, unfortunately, many of these are finding it necessary to come to St. Dunstan's. We are dealing, too, with a number of men whose health does not enable them to make such quick progress as others. At the same time it becomes increasingly difficult to finds, for the men who are ready to start on their new life, suitable homes; there is the universal shortage of houses, and a great scarcity of such small properties as the poultry farmers need. Thus the difficulty and expense of settling the men has increased, while we have to face enormously multiplied costs in providing for those who are our guests. in maintaining our convalescent and holiday homes, and in carrying on the ever-increasingly important work of the After-Care of the blinded soldiers.

We have also now to meet the expense of moving our headquarters—the offices for the organisation required to look after nearly 2,000 men, and also the class-rooms and workshops. The House, with its beautiful grounds so generously lent by Mr. Otto Kahn as a Hostel, is no longer available: fortunately, however, we have been able to find for our new quarters another house in Regent's Park—a place which for several generations has been the London Home of the Marquesses of Bute. The interior has been adapted for offices, and in the gardens the class-rooms and workshops have been re-erected. The place is near the Lake on which the blinded soldiers have taken so much pleasure in rowing, and both from the point of view of fresh air and of opportunities for unimpeded exercise the situation is ideal.

This starting again in the creation of a new training centre for the blinded soldiers has, however, been no small matter, and it adds to the reasons already referred to which prompt this appeal for the generous help of your readers.

The blinded soldiers have created a magnificent record; the plans for helping them back to normal life have worked out better, I think, than anyone dreamed would be possible. I think, too, there is no one who realises what the gift of sight means, and what blindness must mean, who would not wish to help on this work which St. Dunstan's has undertaken.

I trust that any of your readers who are so generous as to respond to this appeal will forward their contributions to me at St. Dunstan's Headquarters, Regent's Park, London, N. W. 1.

Yours faithfully,

(Signed) ARTHUR PEARSON,

Chairman—Blinded Soldiers' and Sailors' Care Committee.

Restriction of Rubber Output.

Sir,—Your issue of the 4th is only to hand to-day, and, while thanking you for printing my letter on the above subject, I would like to object to the omission of the last paragraph of same. I would be obliged if you would publish the para in question, together with my letter (in full) to you of the 1st December. I am sure you will only be too pleased to do so, since I think it has sometimes been a complaint of yours that you do not get enough controversial matter from the pen of the working planter. It is the first time I have asked the hospitality of your columns, so you will not think I am unduly encroaching on your space. With reference to the criticism on my letter which you have been kind enough to make :—

I am quite willing to admit that agents of S. Indian Companies at home *may* be aware of the disadvantages under which we labour in South India, but I repeat that they probably do not *fully realise* them, and if they do I can only think that in this case they have shown a too poor consideration of their Shareholders' interests. I speak disinterestedly—my shares are quite negligible!!

The "allotment of shipping during the war" is not germane to the present discussion, and the point you try to make by this reference is answered in what I say above.

Your criticism with regard to "restrict if you like, I am not going to," is fully answered by the fourth para of my letter of the 29th ultimo I have specially made it clear therein that a question of distinction as between Estate and Estate could obviously never be put up with. I don't think we are concerned with this. The discussion is about *Malay and Ceylon* in comparison with *South India*, and this I submit is a totally different matter.

As regards your quotation from Mr. Murphy's letter to Mr. Richardson, you are apparently trying to make "the soft impeachment" that I am against Restriction and Co-operation, which I again deny. May I in this connection refer you to the fifth paragraph of my letter of the 29th ultimo? Mr. Murphy advises 20%, I advise 10%, or a fixed maximum production per acre ; in so far we differ, and no further. I maintain my figure is the fairer, though still quite evidently unjust to S. India.

When all expenditure on tapping and general works is cut down to the minimum, as it is almost certain to be, the ubiquitous, though perhaps impecunious, planter will have less work to do and more leisure for the amenities of life! Anyhow your insinuation that he is unwilling to take his medicine will be resented. In this instance it is the Shareholders in South Indian Companies who have got to swallow the pill!!

Yours faithfully,
(Signed) S. P. EATON.

Land for Ex-Officers.

Dear Sir,—The fact of this subject coming up at the recent Committee Meeting of the U. P. A. S. I. recalls the correspondence which appeared in your columns some time back, and your own writings on the subject. Coincidentally I have just been favoured with some information from an applicant for land regarding the question asked in the House of Commons by Colonel Yate in November, which I give in full :—

15—11—1920.

7. COLONEL YATE.—To ask the Secretary of State for India, if he will state for what reason the Government of India have refused the grant of land to British Officers of the Indian Army who have served in the War, in the same manner as land is being granted to Indian Officers and soldiers,

MR. MONTAGUE.—I will have published in the Official Report the Government of India's reply to the inquiry I made at the end of last year, as I promised to the Hon. and gallant member.

Reply referred to:—"Extract paragraph 8 of an (Army) Despatch from the Government of India, No. 35, dated 6th May, 1920."

8. "All the available land at the disposal of local Governments was set aside some time ago for distribution among Indian Officers and other ranks, or their heirs, in recognition of distinguished service during the War, and it would not be possible now to take away any portion of that land for allotment to British Officers. The bestowal of grants of land on British Officers who may wish to settle in India is not contemplated. The case of Indian Officers holding King's commissions would be considered on their merits."

This can hardly be called a satisfactory reply, in fact it makes one think that the Government of India, for reasons of its own, had no intention whatsoever of acceding to the demand for land grants to returned British Officers; the excuse they put up for refusing the grant is about as feeble and futile as it is possible to imagine, and would seem to be only a blind to cover some other reason which they seem afraid to divulge.

If this is not the case, then they are guilty of a display of crass ignorance, which is perhaps the least obnoxious description I can think of at the moment of their attitude. Governments, of course, are privileged to put whatever meaning they like into the actions of the general public. They are like the old lady in the railway carriage, who jumps to the conclusion that the seafaring gentleman on the opposite seat is going to smoke because he is searching for something in his pockets. "All the available land was set aside.....etc.....and it would not be possible now to take away any portion of that land, etc." My dear old ex-officers, can we blame them! They thought we wanted 3 acres of paddy flats, or a bit of hillside in which to dibble a few tapioca plants. They now suspect us, not only of hankering after that 3 acres, (and probably a cow), but of wishing to grab it from the hard earned allotment of our Aryan brother. I am not concerned with British Officers who may wish to settle in India, unless that sentence is purposely made ambiguous. I am concerned with men who were settled in India before the war, who joined up and fought side by side with the "Indian Officers and other ranks" who have returned, many of them broken in health, or with impaired limbs. It is only right that these men should be given some recognition of their services in the form most useful to them and which, at the same time, benefits the giver, a land grant, but we are told that "all the available land" has been set aside some time ago. "All the available land," ye gods, how much of the backwoods of the Anamalais I wonder has been distributed among "Indian Officers and other ranks," and if it had how many of them would be prepared to take it up? What of the Forest Reserves on which the few hundred acres necessary would scarcely make an impression?

How unfortunate for those of us who were planting in Ceylon, or the F. M. S. before the war, that we should have decided to give India a trial. She has been found wanting, has she not, and we have sacrificed the substance for the shadow. We have in fact been snubbed, we got our pay and gratuity, what more can we expect, and that's that.

Truly God is great, Allah is his prophet, and the Government of India a Judas who has betrayed us for a few shekels of silver.

Yours faithfully,

(Signed) THE BODY SNATCHER.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

(Secretary's Registered Telegraphic Address "U. P. A. S. I.," Coimbatore.)

Edwin Vincent, Managing Editor, Coimbatore.

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PRICE OF "A" Coffee

(BY CABLE.)

LONDON, DATED 17TH DECEMBER, 1920.

115s./- per cwt. Market Dull.

GREETINGS.

The Managing Editor presents his compliments to all readers of the *Chronicle*, and wishes them a Happy Christmas. The Secretary, U. P. A. S. I. uses this medium also in presenting his best wishes to U. P. A. S. I. constituents. Together we will drink a "health" to all planters.

We have to acknowledge with gratitude a Christmas gift in the shape of Volume I of "Planting Opinion," a copy of which was not heretofore in the Library, and for which we have to thank Mr. Phil Beaver of Sholarock, who also sends "Science and Coffee," by Mr. William Pringle, 1907, and "Notes on Cultivation of Cinchona," by W. G. McIver, 1867.

Can any planter spare us a copy of Vol. IV of the "Planters' Chronicle" as no copy of this is in the Library, although we have the rest of the paper complete since it was started.

WYNAAD PLANTERS' ASSOCIATION.

PROCEEDINGS OF AN ORDINARY GENERAL MEETING, HELD AT MEPPADI CLUB, ON 15TH DECEMBER, 1920, AT 2 P.M.

PRESENT.—Messrs. H. C. Leslie, J. C. Blackham, E. E. Eyre, T. P. Gauld, S. H. Powell and J. A. Gwynne, Honorary Secretary. Visitors—Messrs. A. C. Woodhouse, Deputy Collector, and B. Vincent.

Mr. Darkin in the Chair.

Proceedings of last Meeting were confirmed.

U. P. A. S. I. GENERAL COMMITTEE.—Mr. Eyre, who represented the Association at the Meeting, held on the 6th instant, read his report, and was duly accorded a vote of thanks for his services.

LOCAL ADMINISTRATION.—The matter was fully discussed in Committee.

ROADS.—A letter from Mr. Morres was read on the subject of the Manantoddy-Tellicherry Outlet Road especially with regard to the state of the bridge at Chandanatode.. Mr. Powell agreed to bring up the points in Mr. Morres' letter at the next Meeting of the Malabar District Board.

LABOUR ACT I OF 1903.—Read correspondence with Mr. J. S. Nicolls in connection with the proposed visit of the members of the planting community who have been elected to the Committee to consider the amendments to this Act. The Meeting was of opinion that a visit by those members of the Committee to discuss the proposed amendments would be welcome.

CENSUS, 1921.—Mr. Woodhouse informed the Meeting that the census would be taken on the 18th March, 1921, and asked that members would assist enumerators and supervisors in collecting statistics.

With a vote of thanks to the Chair, the Meeting terminated.

(Signed) B. D. DARKIN,
Chairman.

(Signed) J. A. GWYNNE,
Honorary Secretary.

BABABUDIN PLANTERS' ASSOCIATION.

PROCEEDINGS OF THE NINTH ANNUAL MEETING OF THIS ASSOCIATION, HELD AT CHICKMAGALUR, ON WEDNESDAY, 24TH NOVEMBER, 1920, at 1 P. M.

PRESENT.—Messrs. S. H. Dennis (Chairman), C. Sylk, F. D. Meppen, W. H. Lincoln, W. R. Thomson, N. G. B. Kirwan, H. Kerr, F. Hugonin, and S. J. Wilson (Hon. Sec.). Visitor—Mr. D. Meppen, District Board.

Notice calling the meeting was read.

Minutes of the last meeting were passed and confirmed.

CHAIRMAN'S ADDRESS.—Gentlemen,—It is usual for your retiring Chairman at the Annual General Meeting of the Association to give a short *resume* of past and present events, in so far as they effect planting politics generally. The past season has been uneventful, nothing very startling having happened. We are now getting accustomed to the eternal labour troubles all over the world, and it is a question that has no doubt come to stay, and will make the world a very difficult place to live in, there is now hardly a nook or corner in which they have not some domestic trouble, but to revert to coffee and its sister industries, tea and rubber, the latter are passing through bad time, but they will doubtless weather the storm as they have taken the bull by the horns, and are cutting their coats to fit their cloth. Coffee, the oldest of the family, has perhaps had more than its share of trouble, but we have always managed to keep our heads above water by striving to economise together with efficiency.

Last season's crops in this district were good, and we were fortunate to get record prices for them, the present season's crops are moderate, and prices have declined considerably, there are various reasons given for this, but I fancy the old law of supply and demand is answerable.

The labour question is the rock which looms largest on our horizon, but I am glad to see that North and South Mysore are now in favour of increasing coolies' wages, and also that certain members of this Association who opposed it at our meeting last March realise that it must be done. It seems to me that what we considered our preserves in pre-labour department days are now the happy hunting grounds for all and sundry.

The carting question is becoming more difficult every year. That there are not sufficient carts to go round is acknowledged, hence cartmen are demanding an increase of rates, this is to a certain extent justified, as the cost of upkeep is higher than it was, but it is a matter in which we should act in unison, hence it finds a place on the Agenda to-day.

We ought also to do something this season about a shed at Birur, for our coffee and manures when waggons or carts are not available. The confusion that took place last hot weather at Birur will not soon be forgotten by me any way. The Railway Authorities this season threaten the more stringent application of the rules, in so far as the goods must be removed within the time limit, or wharfage will be charged. I would suggest that members remove one lot before they order another.

Some of our roads are improving thanks to the advent of the Iron Industry, but others leave much to be desired.

Our monsoon has been below average, June and August being in defect, at one time it was thought the crops out east were lost, but good rain in September saved the situation.

In tendering my resignation, I must thank the Hon. Secretary for the very able way in which he has carried on, the work every year becoming more strenuous.

HONORARY SECRETARY'S REPORT.—Gentlemen, there is very little to report at this, our ninth annual meeting. Since the last one we have had two ordinary meetings, which were very well attended.

The Association's financial position continuoes strong. During the year, Rs. 2,500, invested in War Bonds fell due, and this has now been placed at a fixed deposit for six months with the National Bank, Madras. We have still another Rs. 1,000 in War Bonds. On the 30th June we had a cash balance of Rs. 1.467-14-2, and this, with subscriptions for the current year, will give us a balance of about Rs. 2,500, from which, I think, another Rs. 1.000 might be placed to the Reserve Fund, making this Rs. 4,500, and still leaving about Rs. 1,500 for current expenses.

During the year, Gonekul Estate was sold and removed from our Roll Another, Chickilli Estate, is also, going thus reducing the acreage from Rs. 5,154 to 4,884 acres. A new estate, the Ginimao Estate, 69 acres joined the Association, bringing the acreage up to 4,953 acres.

I will be obliged if you will now appoint your auditors, to audit the accounts, which are on the table.

In conclusion I must thank all members for their help, and now place my resignation in your hands.

Messrs. C. Sylk and Kerr were appointed to audit the accounts.

DELEGATE'S REPORT—Gentlemen,—You did me the honour of electing me your Delegate to the U. P. A. S. I. meeting last August, my duties were not very onerous, as you will remember, there was nothing you desired me to bring up. I will not bore you with a recapitulation of all that transpired at the meeting, as that was very fully reported in the press at the time, and since then you have all received a copy of the Book of Proceedings, which reports all that was said and done in open meeting and committee.

A vote of thanks to Mr. Dennis for acting as our Delegate at the last U. P. A. S. I. meeting was proposed by Mr. F. Hugonin, and seconded by Mr. Wilson.

ROADS.—Proposed by Mr. Kerr and seconded by Mr. F. D. Meppen, that Government be asked to have the Sakrapatam—Hospet Road surveyed and opened at an early date, and investigations made as to the subscriptions that the planters are likely to give towards the cost and upkeep.

It was also proposed by Mr. Lincoln, and seconded by Mr. W. R. Thomson, that the Forest Department be asked to take up the upkeep of the road from Mullendur to Chickmaglur, as, owing to the heavy timber traffic, it should be their department to keep it in better order and to spend more money on it, and not the District Board, whose funds are limited.

The Hon. Secretary be asked to write to the Executive Engineer that the B. P. Association note, with much satisfaction, the improvement in recent years in the first 19 miles of the Chickmaglur—Tarikere Road.

RAISING OF COOLIES' WAGES.—The following amendment to Mr. Kirwan's resolution was put forward by Mr. Sylk, and seconded by Mr. Wilson. That this Association is glad that North and South Mysore have decided to raise the rates for men and women to 6 and 4 annas, respectively, from the 1st January, 1921 in the case of North Mysore, and 1st December, 1920 in the case of South Mysore, and that the B. P. A. do likewise from 1st January 1921.

The amendment was carried by a slight majority.

Regarding artizans, it was agreed to fix the limit to Rs. 1-4-0 per day for good workmen.

CORRESPONDENCE.—Proposed by Mr. Kerr and seconded by Mr. F. D. Meppen, that the Deputy Commissioner be asked to allow the ryots who moved from Sagane-Buswanhully and Siddarhully to Sreenvaspur, to return to the old location, as they are not able to make a living out of agriculture alone, and can earn money by working on neighbouring coffee estates from the old village during their slack season.

Read Captain Harrop's letter and noted same.

ELECTION OF OFFICE-BEARERS—

Chairman ... Mr. S. H. Dennis.

Hon. Secretary ... Mr. C. Sylk,

With a vote of thanks to the Chairman and Honorary Secretary for the very satisfactory way in which they have carried on their duties, the meeting terminated.

(Signed) S. H. DENNIS,
Chairman.

(„) C. SYLK,
Hon. Secretary.

THE MADRAS AGRICULTURAL STUDENTS' UNION.

The annual Conference and College day of the Madras Agricultural College has fallen a little later than last year when a considerable portion of the space of our penultimate number was taken up with a leader on the subject of the Union and with reprints of some of the papers read at the Conference. This year.owing to the occurrence of Leap year and the completion of the cycle which brings Christmas Day on a Saturday, we have used the same material, at least material from the same source, to help to fill this rather attenuated Christmas number, as we have to go to press considerably earlier this week. There is nothing we could wish to add to what we said last year about the Union and the Conference. The latter is an education nobody at all interested in agriculture can afford to miss. It was presided over this year by Sir P. Theagaroya Chetty Garu, B. A., M. L. C., and the papers read were as varied as they were interesting. We offer two of them to our readers in this issue, and this we are able to do by courtesy of the Secretary of the Union and the Editor of the "Student's Journal,"

Mr. Sundararaman is not unknown to a large number of planters. His work on leaf fall in conjunction with McRae has come under our own personal knowledge in our planting days. We commend his paper to the earnest consideration of all planters.

Mr. Hilson is less known to us though by no means obscure in the department which claims him. His paper on Cambodia Cotton and its improvement by selection is an object lesson to us all no matter what crops we are interested in.

OUR INVISIBLE CROP ENEMIES.

A paper read by S. Sundararaman, M. A., Acting Government Mycologist, Madras *

My object in choosing this subject for the meeting this morning is to briefly narrate what has been done to provoke thinking in officers present here—officers who have considerable experience in the cultivation of field, garden and planters' crops, and help to focus their ideas on the salient points connected with crop pests. I do not intend to inflict on you a long list. As a Mycologist, I am concerned chiefly with the fungus pests. This department has been at work in this Presidency only a few years, and the results achieved have been striking and justify, as local circumstances permit, of wider application to larger tracts.

2. The chief among the diseases which have been tackled are :—

i. Smut on Cholum and Tenai.
ii. Fruit-rot of Chillies.
iii. Bud-rot of Cocoanuts and Palmyras.
iv. Koleroga or Mahali disease of Arecanuts
v. Bleeding disease of Cocoanuts.
vi. Mildew of Grapes.
vii. Leaf-fall of Hevea Rubber.
viii. Root-rot of Coffee and Tea.
ix. Rust of Coffee.
x. Brown Blight of Tea.

The havoc which these have been committing is evident when one remembers the vast areas these crops occupy in this Presidency. Cholum and Tenai occupy amongst themselves 9·3 million acres out of a total cultivated area of 33 million acres. Palmyras and cocoanuts are the mainstay of large sections of the population in Godavari, Kistna, Guntur and the West Coast of Malabar and South Kanara, and several thousands are dependent upon them—jaggery, fibre and copra industries being largely built up upon them. The importance of rubber, coffee and tea needs no telling.

3. It has been, therefore, imperative to take up these important crops and extend the sphere of work as time permitted.

4. In the Bud-rot of cocoanuts and palmyras the central leaf withers, dries up and falls down. The leaves drop off one by one, and in a short time the trees are reduced to bare poles. In the smut of cholum and tenai the ear-heads instead of producing healthy grains, their place is taken up by bags of black powder. In the Mahali disease of arecanuts the fruits on the bunches rot and drop down. Grey patches appear on the fruits of grapes and cause the fruits to crack, rot and dry up. In the fruit-rot of chillies the fruits turn yellow dry up and become chaffy. The bleeding disease shows itself in the cocoanuts by the exudation of reddish fluid from the cracks on the stem. The Hevea trees shed all the leaves at a time during the monsoon when they ought to be full of them. The coffee and tea killed by root disease dry up and stand bare of leaves. Brown blight causes the leaves of tea to dry up and become useless. The rust on coffee shows itself by turmeric colcured yellow patches on leaves.

* Coimbatore Agricultural Conference, December 22nd, 1920.

5. The diseases have caused a loss of several millions of rupees. Systematic microscopic investigation and examination in the laboratory coupled with an inspection of the spread of the disease in the field have revealed in each case where to look for the cause, and what preventive measures to adopt. This has led to the suggestion of practical measures to the growers. These diseases, as you know, are highly infectious and rapidly spread under our eyes only all the time we are unconscious of it. To check these, careful intelligent supervision is necessary. This is a point on which I need not dwell much in the presence of practical men like you. Measures we have found satisfactory are (1) Destruction of all diseased materials, plants, roots and all. This as you know is the simplest, but this is a large order, certainly, as you know at what enormous expense the crop is raised. The next step therefore that suggests itself is the control at an early stage, in the growth of the crop. This is easy and effective, and consists in turning a sprayer against the suspected tree, or part of the tree or a crop. In some instances which I hope your vigilance will always bring to a minimum "isolation of infected areas," is essential. We are aware what this form of isolation means, and how it saves millions of money. We can take our lesson, if not from anything else, at least from the analogy arising from the enforcement of quarantine to 'vessels' arriving from infected places. The points raised above are effective if only all exert their honest best and carry them out jointly. Here is the need for conjoint action, honest co-operation. It is no good a gentleman here, a gentleman there starting a campaign only to find to his utter dismay that his brother next-door is not interested, is not whole-hearted, as this brings trouble not only on himself but on a very large number. It is not enough that a manager sees to the removal under his personal supervision of all the infectious matter from a corner of a plantation, but he must also see that his coolies, his maistries and his agents understand the seriousness, and do likewise. A little carelessness in this respect results in severe damage, in untold loss. Intelligent co-operation is as essential in this case as in most other departments of human activity. But this world is not governed by reason alone, sentiment plays an important part. Idiosyncracies often times lead two men to contrary courses of action, and in no case where the good of the community is at stake has compulsion tending in a few instances to force an indifferent member become unnecessary. Instances are numerous from each tract.

6. It has been possible to actually remove the disease causing damage to the fruits of arecanut palms in Malabar. In this case the arecanut garden was not the property of Government, but belonged to a private individual; he had given it up for lost, the garden was examined, the remedial measures found possible were applied, and the plantation saved. Similar measures were adopted for grape-vines in Michaelpatti, a large vine-growing area in the Madura district. Another instance where timely aid was given by the department was the saving of a tea plantation from blight. This fungus appeared in the nursery extending over 10 acres. On examining the spot the visiting agent of the tea estates assured himself that the nursery was all gone, and that it would pay to destroy it and raise a fresh nursery. At this juncture, at Mr. McRae's suggestion spraying with Bordeaux Mixture was done, and the nursery saved. This has resulted in saving the estate two years' growth. It is unnecessary to multiply instances only I wish to impress upon your attention the necessity for extreme vigilance and skilled control. It is almost impossible except with some pressure to enforce the adoption of remedial measures suggested. In normal times mere compulsion is necessary though always some chafe

under even the most innocent measure. Mainly through your efforts and the sympathetic attitude of Government, most of us have at present subordinates trained in the methods for successfully combating disease arising in the plantations. For the planting districts we have a very useful agency known as "estate writers" trained in the cold weather season of 1918-19. I can assure you that they utilised their time here to the best advantage of the planting community, and learnt and prastised enough to be in charge of spraying and general sanitary measures. Similar agencies have been specially trained to individually tackle the diseases on crops in the plains, some in the anti-smut campaign, some in the spraying against the Mahali disease, some against the spraying of mildew of grapes, some in the operations against the bud-rot of palmyras in Godavari and Kistna, and also treating cocoanut trees against the ravages of the dreadful Bleeding disease. Through the untiring efforts of our Director of Agriculture, Mr. Stuart and the sympathetic attitude of Government, the Agricultural Pests and Disease Act was placed on the statute book, and it behoves us all whether planter or official to see that advantage is taken of it, and, diseases kept out from plantations. Your interest and the interests of Government are intimately bound up, and it is for you to correctly understand the attitude of Government and set an example to the bewildered and ignorant masses of cultivators of this Presidency. In the enforcement of measures suggested under the Act the first requisite is an officer who has full knowledge of the locality, who knows his subject thoroughly well, who can apply the knowledge gained inteliigently, who knows the people, and above all who is cautious, sympathetic, and at the same time firm. The appearance of a pest should be instantly reported when immediate steps will be taken to investigate it. This is an all important factor in this work. Promptness in doing the work and patience in waiting for results to show themselves are two indispensable factors in carrying out any campaign successfully. A diseased locality is inspected, and the fact brought to the notice of the planter. The remedial measures suggested are expected to be carried out without any reasonable loss of time. If this is neglected, a second inspection becomes necessary which might involve a penalty however small. Heedlessness to warning ends in confiscation of the crop to safeguard the interests of a large mass of adjacent planters. The following examples emphasise the need for prompt action against the disease.

1. Bud-rot of palmyras and cocoanuts in Godavari and Kistna. The process of cutting the heads of diseased palms and burning them was being done through the agency of a special staff of revenue officials specially trained by the Mycologist. This system has of late been much improved by introducing the practice of examining the trees and removing diseased portions. Trees treated in this manner recover. The percentage of recovery is a little over 95. The people bear the cost of the operations. If they would only assume the responsibility of dealing with the disease themselves greater progress would ensue. They are still inclined to wait until the periodic visit of a special officer instead of dealing with a diseased tree themselves whenever the first symptoms appear.

In certain upland villages, *viz*, Unagatla and Chikkala in Kistna where the palms are tapped for sweet toddy, and large quantities of jaggery are manufactured for sale to Messrs. Parry & Co., the examination of the palm trees for the presence of the disease was taken up. There was at the outset far too much opposition from the tappers and from tree owners who

would not permit any examination of the trees by the departmental staff but persisted in tapping. The Collector, very wisely, I should think, issued a proceeding prohibiting, under penalty of a fine, tapping in these villages. All the trees were examined, and the ryots bore the expense themselves. The result was that the disease was eradicated in that tract.

A cyclone had destroyed about a lac of cocoanut trees in the South Arcot District. Immediately the demand rose for seedlings from all quarters There was an attempt to get them from Ceylon, Travancore, Cochin, wherever found. There was thus the danger of introducing with the seedlings the serious diseases prevalent in the places of origin, the Bleeding diseases of Ceylon, the root disease of Travancore the leaf disease of Cochin, and the Bud-rot of Malabar.

When the Government enforces legislation, say, against importing of seedlings from Travancore and Cochin, it is equally bound by an obligation to supply healthy seedlings certified by experts. The cocoanut growers should, in their turn take to these enactments made on behalf of the ryot population by a beneficient Government, and by a legislature in which their own representatives have a predominating voice—they should take to these kindly, and view them as acts conducing to their own welfare. The result of the prohibition of the export of cocoanut seedlings from Travancore to the neighbouring State of Cochin has been patent in the root disease being restricted to the limits of the Travancore State. Here there is a very large water borne trade. As Cochin is also a large cocoanut grower stringent regulations were required to prevent the infection of the areas by prohibiting the entry into the state of cocoanut seedlings from infected places. The prohibition of the exports has, as Dr. Butler rightly sa'd been a necessity, and has saved Cochin from untold misery.

Similarly it has been possible to entirely remove the arecanut fungus from an arecanut garden in Chattissery—Ponnani Taluk. There is no reason why this should not be done over a large area provided every garden received careful attention and proper treatment at the right time. It is of course not always possible to get this satisfactorily done without some form of legislation.

With regard to the potato diseases several have taken a firm root in India. Potatoes in the Nilgiris and in Bangalore suffer from the Ring-disease, but the Irish Blight so common in the Darjeeling potatoes largely available in the Calcutta market, and exported in wagon loads up-country has not been known to exist in the Nilgiris. Another serious disease known as the Warty disease does incalculable damage to potatoes in England, and in that country this has been scheduled as a disease under the Destructive and Pests Act. If a potato planter in the Nilgiris wishes to import even a few pounds of a new variety from England and gets the wart disease unwittingly perhaps in his crop, is it not right to force him, if persuasion is impossible, to destroy the whole crop for the benefit of the planting community before the disease has had time to take a firm hold. If an act of the kind as is in force in England were not available for the Mycologist in India the planter would not be bound to report the outbreak of any new disease. Legislation would in the case of outbreaks of a new disease empower the local authorities concerned to confiscate the whole crop or deal with it as is consistent with public interests.

Flax is known to have a rust on leaves and stem. In 1909 the fibre expert to the Government of Bengal and Assam sent flax seeds for being grown in the Nilgiris for seed production. The crop grew well for three years without any trace of the appearance of rust, but in 1912 flax seeds were obtained from Bengal, and the crop which grew out of these was all covered over by rust. The Mycologist inspected the plot, and advised the burning of the whole crop as it stood. This was done. All the baskets used were sprayed with formalin. A new set of coolies were told off to look after the plots of non-infected flax. The plots were under the control of the Superintendent, Government Gardens, and it was easy to secure the burning of the crop. If the crop belonged to a private individual who would not cheerfully carry out the urgent instructions of the Mycologist, should there not be a legislative measure to confiscate the whole crop and deal with it as the authorities consider it necessary to do.

Botanic gardens and agricultural experimental stations are liable to introduce exotic diseases in nurseries, or through any other agency which imports plants. Sugar-cane sets that are being continually received by the Government Sugar-cane Expert for instance, from Hawai'i, Demarara, Java, and other countries are being examined at the Mycological Laboratory for the presence of any insidious fungus. These canes are put to the severest test possible. Sets that show the least trace of fungus either on the specimen itself or in incubating, are rejected wholesale and destroyed; those which appear to be free are passed for planting. As a precautionary measure even of those that are passed as sound a few sets are being grown in pots in the pot culture house, and kept under strict observation.

As regards diseases and their seriousness, India is peculiarly fortunate; she is well situated. She is almost completely isolated by the sea and the barrier of the Himalayas in the north. She is practically shut out from foreign diseases except by the sea and by the passes of Baluchistan unless they are allowed to come in with their host plants. Several diseases like warty disease of potatoes comes through tubers and other diseases and through fruit trees.

2. Nurseries and florists establishments play an important part in the dissemination of diseases.

3. Settlers, planters, missionaries and tourists are responsible for the introduction, in the main, of fungi on important plants.

4. Importation from outside can to a large extent be checked by inspecting stations at ports if plants arrive by the sea route, and if in the frontier near the passes into Baluchistan. In other countries legislation against importation of seeds, seedlings, bulbs and stumps is in force.

5. Control of nurseries and other agencies engaged in trade in plants. Any nursery found infected might be kept under quarantine. But once a disease gets a firm footing in different parts and becomes widespread, the Government will be justified in enforcing vigilant and strict supervision to safeguard the interest of the general tax-payer, and the bulk of the people,

CAMBODIA COTTON (Gossypium hirsutum)

ITS DETERIORATION AND IMPROVEMENT,
BY G. R. HILSON.

Paper read at the Agricultural Conference, Coimbatore, Dec. 1920.

Cambodia Cotton is an Upland American variety of cotton. It was first brought to the notice of cultivators in Madras Presidency in 1907, when a small quantity of unselected seed was distributed. From the beginning its cultivation spread rapidly until, when the Indian Cotton Committee made their report in 1919, the area under this crop in this Presidency alone was estimated at 200,000 acres.

During the first few years the reports received from buyers regarding the quality of the lint were very favourable. Later, however, after the cotton had been in the hands of the cultivator for about ten years and had been exposed to the full effects of climate and careless methods of cultivation, less favourable reports began to come in. It was definitely asserted that the lint was shorter, weaker and much more stained than was the case at first. The plant was stated to have deteriorated.

The charges made were true enough, but to say that the crop had deteriorated was merely to express a fact in a conveniently short manner, without correctly realising what causes were involved.

A similar reaction on the part of the crop, differing only in type, would have given a result which, with equal looseness of expression, would have been termed acclimatization. We may estimate correctly the causes of the change which occurred by considering the charges made under two heads,

First. Weakness and staining.

There was only one factor at work here, namely the boll-worm. When first grown in this Presidency, Cambodia cotton was no more able to withstand the attack of the boll worm than it is at the present time. In this respect it has neither deteriorated nor improved. What really happened, then, was that the cultivator unwittingly set to work vigorously to breed boll-worms. Desire to reap a large profit from the crop led him to adopt the practice of leaving it standing for several years in succession. Thereby he over-reached himself. For by so doing he ensured a steady supply of food all through the year for the boll-worm population. The natural result was that the boll-worm increased rapidly in numbers, and in consequence the number of bolls attacked also increased. Thus a larger proportion of the 1918 crops was stained and weak than was the case with the crop of 1908. If the boll-worm can be reduced in numbers, then the loss in yield and deterioration due to this cause can be reduced.

Second. Shortness of staple.

Here there is an entirely different question to be dealt with. The first seed distributed was unselected, and was a mixture of types. Plates A, B, C, D, etc. show some of the types to be found in the Cambodia cotton crop at the present day. All the possible types are not represented. There are others intermediate between the shortest and the longest. Probably not all of these types were present in the original mixture, and not all would breed true if isolated and sown separately. The others have arisen by cross-fertilisation within the Cambodia population, and possibly, latterly, by contamination with Dharwar-American cotton.

Now, when a mixture of types is given out for cultivation, the plant population so raised does not remain staple. New types arise by cross-fertilisation, and all the types do not react to their environment in exactly

the same way. If the bulk of the seed first issued was from the types, D, E, F, as it probably was, and if the conditions of their environment had been such that they favoured these types, they would have continued to form a major proportion of the population. Cambodia cotton would not then have deteriorated in respect of the length of lint, but would have remained very much the same all through. It would, in fact, have become acclimatized.

Conditions, however, in this country, when allowed full sway are not generally favourable to the growth of the best qualities of exotic cottons. The poorer, medium quality, early, more vigorous types are better suited to the climate and careless methods of cultivation, than are the better quality types. When, therefore, the mixture was distributed and then left to itself, the poorer types gradually replaced the better and usurped their position as chief ingredients of the mixture. Thus, after a time, the larger proportion of the lint obtained from the crop was of poorer quality than was the case at first, with the result that the plants were accused of having deteriorated. Fortunately the good types are not lost, they have merely receded into the background. They can be brought into prominence again by the artificial aid of selection. There are two main lines along which crop improvement work usually proceeds. The first is more or less a rough and ready method termed plant to plant selection, which in a refined form works as follows:—

First season.—A sample of unselected seed as ordinarily used by the cultivators is obtained and sown. In the case of Cambodia cotton, the resulting crop would consist of a medly of types giving produce similar to A. B. C, D, etc. In this population a number of plants are selected and numbered. The produce of each of these plants is harvested separately, and only such lots as approach nearest to a certain standard are retained

Second season.—Separate plots are sown with the seed of the selected plants. When the crop is old enough, each plot is examined to determine whether the culture is pure in respect of habit of plant. If impure, representative plants of each type noted are marked. If pure, a number of the best looking plants are marked. The flowers on these marked plants are selfed. Early in the harvesting season each plot is gone over again, and the produce of each plant is examined. The object here is to determine whether, in the impure lots, there are any plants worth keeping which have been overlooked, and whether the lots pure for habit appear pure as regards type of produce.

If any of the latter prove impure the fact is noted, and the selfed plants are examined to see that the different types are all represented. At harvest the produce of each marked plant is gathered separately, and put through a further critical examination in the laboratory. As a result of this examination, some plants may be discarded. Single plants from impure lots are kept separate, as in the beginning, but the selfed seed from the marked plants, in such lots as prove to be pure, is mixed.

Third season.—In this season there will probably be enough selfed seed of the pure type to permit of two sets of plots being sown, one to produce pure seed and the other to test the yielding qualities of the pure cultures against one another and the local mixture. The seed plot is a quarter of an acre or more in area, and is placed as far from other cottons as possible, to minimise the risk of cross-fertilisation. At harvest the produce of the plants in the centre of the plot is gathered separately and set aside, to provide seed for the next season's sowing. The test plots are in the form of long strips from 2 to 4 cents in area, and are sown side by side in series. The series is repeated as many times as the quantity of seed at disposal will permit, e. g., local, 1, 2, 3, 4, local 1, 2, 3, 4, and so on. The

produce of each strip is harvested, weighed and ginned separately, and the results are recorded. This process of growing pure seeds in large plots and of testing yield is carried on for three or four years, so as to eliminate the effect due to variation and season. As it proceeds, if possible, some of the types are discarded. The seed plots of those remaining are increased in size until sufficient lint of each is obtained for a spinning test to be carried out. On the results of the spinning and yield tests, the final selection of one type for distribution for the cultivator is made.

This method has a disadvantage, that it may limit the range of improvement. For, whatever the standard set up, types which do not conform to this standard but which may nevertheless possess useful characteristics are liable to be lost. If the type selected for distribution has been judiciously selected and well tested, its cultivation will spread rapidly. And if, as should be the case, a steady stream of pure seed flows from the selecting body to the cultivator, the selected type will soon occupy the whole area on which the plot is grown. Moreover, if the standard set up is a high one, this method affords no definite evidence of the possible existence of the type desired except actual discovery. Failure to find the type aimed at does not prove that it does not exist. At the same time the ideal might be an impossible one, and continued search by the method described might merely result in waste of time.

The second line of procedure is, in its first stage, similar to that just outlined. It differs from it in that, instead of picking out a limited number of likely plants, the crop is gone through until all the different types have been secured. Single plant selection and self-fertilization are carried on until all these types have been obtained in pure cultures. From these a a few of the best are selected, and tested in the field and in the mill. The best of these is then given out for cultivation, as before. This constitutes the first stage of improvement.

The next step consists in taking all the types which possess one or more useful characters in the highest degree and, by judicious cross-fertilization, endeavouring to produce a type which combines in itself all the useful characters in the highest degree. This is, of course, the most difficult part of the whole scheme. It involves the careful study of the inheritance of all the various characters met with, even though some of them may have no apparent economic significance. This second method, i.e., isolation of types and hybridization is the one which it is proposed to follow.

So far we have been dealing in general terms, it is now necessary to go into more detail.

The whole aim of the work on Cambodia cotton is to make it possible for the cultivator, following reasonable methods of cultivation, to obtain per acre the heaviest possible yield of lint of one inch, or more in length. Yield per acre can be increasedi n two ways, by reducing the loss caused by pests and by the production or discovery of a more productive type.

The two main pests from which Cambodia cotton suffers at present are stem-weevil and boll-worm. Exactly how much damage these two pests do singly or together is not definitely known. It is certain that together they do a considerable amount of damage, and that the boll-worm is more destructive than the stem-weevil. The most hopeful methods of combating these pests are (1) growing a type of plant wholly or partially immune from their attack, and (2) uprooting the whole crop as early as possible each year, and leaving as long an interval as possible before sowing the next crop. There seems some likelihood that the first method will be successful in the case of the stem-weevil, but in the meantime starvation appears to be the best method of dealing with the boll-worm At present the interval between

the uprooting of one crop and the sowing of the next is generally not more than two months.

Now Cambodia cotton yields twice in the year, once in the season, *i.e*, before the beginning of May, and once in the summer, *i e*., from about the middle of June. This second crop is not nearly so good as the first, and is very badly infected with boll-worm. If, therefore, a type could be found which would give practically all its yield in the season and as much then as is now obtained from both summer and season pickings, there would be very little point in keeping the crop standing after the beginning of June. This would permit of a very much longer interval being maintained between successive crops, and would result in the return of the boll-worm to its original status, *viz*., that of a minor pest. So much, then, for the first method of increasing the yields.

The production of a heavier yielding type is a little more complicated, and involves the study of the following characters among others, the size and shape of the plant, which affects the number of plants which can be grown per acre, the number of bolls set, the size and shape of the boll, the number of locks in the boll, the number of fully developed seeds in the lock, the weight per seed, and the weight of lint per seed. The scope of this paper does not permit of all these characters being considered, and only the two last mentioned will be dealt with, *viz*., seed weight and weight of lint per seed.

Balls, working with Egyptian, and Harland with Sea Island cotton, found a positive correlation between seed weight and weight of lint per seed. From the table shown here it will be seen that a similar correlation holds good with Cambodia cotton. It will be seen that, as the weight of the seed increases the weight of lint per seed increases. The lighter seeds give a lower, minimum and maximum weight of seed than the heavier, and do not carry really heavy weights of lint. The explanation of this relationship appears to be this. A heavier seed is a bigger seed. It therefore has a bigger surface area and can carry more fibres. A seed cannot carry more fibres than its surface area will hold, but may carry fewer. A light seed, therefore cannot carry a heavy weight of fibre, but a heavy seed may carry anything from a light weight, to a heavy weight of fibre. Considerat on of this feature brings out an interesting point in regard to ginning percentage. The maximum weight of fibre per seed appears to be about $\frac{3}{7}$ of the weight of the seed. The ginning percentage for any given weight of seed with the maximum weight of fibre is therefore practically the same all through, about 43%. A small seed, carrying the maximum quantity of fibre possible, will therefore give a higher ginning percentage than a heavier seed carrying less than its maximum, although the actual weight of fibre carried by the heavy seed is more than that carried by the lighter seed. Harland found that in Sea Island Cotton there is a positive correlation between weight of fibre per seed and weight of lint per acre If this holds good with Cambodia cotton, the figure obtained for weight of fibre per seed will be a better indicator of the value of a cotton than ginning percentage, unless ginning percentage is used as an indicator of weight of fibre per seed. Ginning percentage is, in fact, a very minor consideration compared with yield of lint per acre.

Much more might be said about the other characters mentioned above, but this paper is already long enough. It has only to be said, in conclusion, that the attempt to combine all the useful characters in the highest degree in one plant may fail at some particular point, owing to imcompatibility between certain characters. If, however, anything like this should occur, we shall have the satisfaction of knowing exactly where we stand and up to what limits improvement is possible.